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THE EFFECTS OF COGNITIVE STYLE AND  
ADVERTISING TYPE ON RESPONSES TO  
ADVERTISING UNDER CONDITIONS OF LOW  
AND HIGH INVOLVEMENT: AN EXPERIMENTAL  
INVESTIGATION

A Dissertation Presented

By

David Lloyd Moore

Submitted to the Graduate School of the  
University of Massachusetts in partial fulfillment  
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

February 1985

School of Management

David Lloyd Moore



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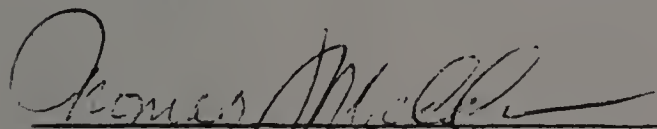
By

David Lloyd Moore


Approved as to style and content by



Marc G. Weinberger, Chairperson of Committee



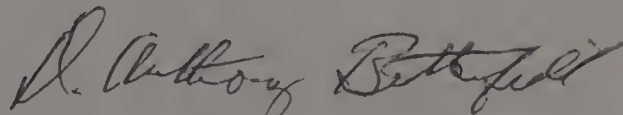
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Finally, in the words of the Five Man Electrical Band, "Thank you Lord for thinkin' about me, I'm alive and doin' fine."

## ABSTRACT

### THE EFFECTS OF COGNITIVE STYLE AND ADVERTISING TYPE ON RESPONSES TO ADVERTISING UNDER CONDITIONS OF LOW AND HIGH INVOLVEMENT: AN EXPERIMENTAL INVESTIGATION

February, 1985

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Directed by: Associate Professor Marc G. Weinberger

An experiment was employed to examine the effects of cognitive style and advertising type on subjects' responses to advertising under conditions of high and low involvement.

Cognitive style was operationalized using the Myers-Briggs Type Indicator. Advertising type referred to concrete versus abstract radio ads developed for the study. High and low involvement was developed as high and low personal relevance of the soap product being available in the area or not. The belief was that there would be an interaction between cognitive style and ad type.

Three measures of consumer response were employed: affective response, attitude toward the ad, and attitude toward the brand.

The results of the experiment suggest that attitudes toward the advertisement and brand are



unaffected by differences in cognitive style, advertising type, or personal relevance. Significant results were obtained for affective response, however. It would appear that abstract type advertisements may be more effective against intuitive type consumers. It is also indicated that abstract type advertisements may be more effective under conditions of low involvement. Finally, intuitive types would seem to respond more positively to advertising under conditions of high involvement.

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# C H A P T E R I

## INTRODUCTION

### Consumer Response to Advertising

In 1982 advertising expenditures for consumer goods were over 40 billion dollars (Kisielius, 1982). Without a doubt, every advertisement which was funded by advertisers was expected to generate some form of consumer response; yet we know that a good many of these advertisements failed to generate the expected consumer response. What we do not always know is why not.

This study will review and synthesize several recent developments and suggest a new approach for research into consumers' responses to advertising. The approach taken here examines the structure existing within the individual which acts to focus attention on the substance of beliefs. It suggests that the consumer is predisposed towards advertising which is consonant to the existing structure of his/her cognitive style.

What this implies, then, is a backwards extension of the learning hierarchy such that the



consumer's initial response is viewed as a holistic and affective one. This initial holistic response may or may not give rise to an analytic and cognitive response (e.g., belief formation). This approach is articulated through an integration of the concepts of cognitive style, advertising style, affective response, involvement, attitude towards the ad, and attitude towards the brand.

#### Consumer Response: A Brief Genesis

A major problem in the study of consumer response is the inordinate focus on the stimulus and the organism's response to it. From the introduction of the first text in consumer behavior (Engel, Kollat, and Blackwell, 1968) until fairly recently (Assael, 1981), the traditional hierarchy-of-learning (i.e., cognition-affect-conation) has been recognized by authors as the predominant approach in research on the effects of advertising.

More recently, the low involvement phenomenon has been dealt with by many researchers as a modification of the earlier hierarchy of effects. In a more radical sense, Zajonc's work (Zajonc, 1968 and Zajonc and Markus, 1982) is unique in that it denies

under certain circumstances the efficacy of the prevailing cognitive processing view. The direction suggested here is that though Zajonc suggests a new and important level of response for some situations, for completeness another ingredient, the individual, must be factored into the situation. Within the marketing literature, work by Zajonc has sparked an interest in the area of attitude toward the ad as a concept that may be linked to affective responses to advertising.

What is relevant to ask in terms of consumer response is what determines the path an individual will follow with respect to a given product, issue, communication, etc. Is there something or some combination of things which predispose the individual to become involved with a given stimulus?

This, then, calls for a redirection of research efforts. What is needed is a statement of the conditions and predispositions which give rise to involvement within the individual. What research has focused on to this point has been the substance of perception. That is we have predicted the formation of beliefs and attitudes which reflect the substance of what has been perceived and not the structure which determines what substance will be perceived.

Perhaps, more likely to illuminate the involvement construct is an examination of this structure which may predispose the individual to respond to certain stimuli or, conversely, may tend to inhibit response. What is suggested by this is that we begin to view personality as a structure which may direct perception and thereby moderate involvement.

In our haste to develop predictive models, we have overlooked this necessary prolegomenon. We have approached the problem in a backwards fashion and have become effects-driven in our attempts to explain the observations. Perhaps, what is needed at this point is to reassess our starting position. By first forming some assumptions about the individual and the phenomenon we may be able to proceed in a more systematic and coherent manner.

### Summary

It has been argued that marketing's treatment of involvement and recent work by Zajonc coupled with a reorientation toward the organism as a starting point of analysis rather than simply as a target of advertising is an important shift in trying to

account for the multiplicity of advertising effects.

The primary purpose of this research is to investigate the interaction effect of cognitive style and advertising type on consumers' affective responses to advertising under conditions of varied involvement. The conceptual framework for this study derives from a synthesis of two areas of research (involvement and cognitive style) reviewed in chapters II and III. An argument is presented which views involvement as the crux of a reorientation in the study of consumer response to advertising stimuli.

Now, if we view involvement as a focusing of attention, we find that we are investigating a phenomenon that has been viewed as both cognitive style (e. g., Witken and Goodenough, 1981) and involvement (e. g., Krugman, 1965). This is also consistent with McGuire's (1976) definition of perception as "...the determination of what part of the information to which a person is exposed he or she effectively receives."

Therefore, the research question to be addressed by this study is whether or not the interaction of cognitive style and ad type has an effect on affective responses to advertising under



varied conditions of focused attention. There is ample evidence to demonstrate that what is accepted and retained varies as a function of attention (e. g., Petty and Cacioppo, 1981a). There is very little agreement on what directs attention to begin with. Consequently, there is a need to investigate this phenomenon.

Using McGuire's (1976) model of consumer response as a reference point, what this implies is a shift from emphasis on the fourth and fifth steps of his model (i. e., agreement and retention) to the second and third steps of the model (i. e., perception and comprehension). Various approaches (e. g., Yeakley, 1982; Zaltman and Wallendorf, 1983) to cognitive style indicate that affective responses can be enhanced when there is consistency between the individual's cognitive style and the presentation style of a communication. It has also been argued that differences in cognitive style are indicated by differences in perception and comprehension (e. g., Assael, 1981).

### Purpose

As stated above, the purpose of this study is

to investigate the interaction of cognitive style and ad type on consumers' affective responses to advertising. A methodology is proposed which will allow an examination to be made of the interaction effects of cognitive style and advertising type on:

- (1) Consumers' affective responses to a concrete versus abstract commercial under conditions of high versus low personal relevance (involvement).
- (2) Consumers' attitudinal responses to both the commercials and the brands depicted in those commercials under the same conditions as in (1).

### Contributions to Marketing

#### Conceptual

On a conceptual level, the present study makes several important contributions to the marketing discipline. It is a more holistic approach to consumer response. One of the more appealing aspects of affective response as a construct is the primitive nature of the response. While the typical attitude model requires at least some degree of cognitive processing, this is not the case with affective response. Consequently, for the many marketing situations which strain the assumption of active

decision making consumers (e. g., Olshavsky and Granbois, 1979), affective response offers a defensible and reasonable alternative approach. This is particularly cogent to low involvement conditions.

Second, while it is true that investigations into the main effects of personality on consumer response have been disappointing (e. g., Kassarian and Sheffet, 1981), it has also been suggested that the interaction effects of personality with other variables might prove more successful (i. e., Percy, 1976). Accordingly, this study examines cognitive style in interaction with ad style with the expectation that stronger effects will be obtained.

### Pragmatic

From a pragmatic perspective, at least three contributions can be anticipated from the present study. First a better understanding of consumers' perceptual predispositions will enhance the likelihood of attitude change via the central route (Petty and Cacioppo, 1981a). As Assael (1981) states, "If advertising conforms to a consumer's (perceptual) predispositions, the message, is more likely to be received."

Second, the approach investigated here is quite well suited for use in segmentation strategies. The magazine industry is becoming more and more specialized and cable programming continues to fragment television audiences. While it was possible in the past to appeal to mass audiences with strategies acceptable to the "average" consumer, classificatory schemes such as the Myers-Briggs Type Indicator (MBTI) (Myers, 1962) will become increasingly important for effective segmentation of the specialized television audiences of the near future.

Finally, relating affective response to cognitive styles and ad styles may allow some quantification of the creative impact of an ad. An aspect which, to this point, has been measured by intuition alone.

### Conclusion

In conclusion, this study will attempt to investigate affective and attitudinal responses to advertising under conditions of high and low personal

relevance (involvement) as they are affected by the interaction of cognitive style and ad style. This thesis will be developed more fully in the succeeding chapters. Chapter II will review and summarize the literature on involvement and attitude towards the ad. Chapter III will, likewise, review and summarize the literature on cognitive style. Chapter IV will then, based on the ideas developed in Chapters I, II, and III present the methodology to be employed in the present study, as well as an exposition of the research hypotheses to be tested herein. Chapter V will be concerned with analysis, results, and discussion of the research. Finally, Chapter VI will provide a summary and discuss the usefulness, limitations, managerial, and future research recommendations and conclusions resulting from this study.



## C H A P T E R I I

### THE ROLE OF INVOLVEMENT IN CONSUMER RESPONSE TO ADVERTISING

#### Introduction

Several comprehensive reviews of the involvement literature are available (DeBruicker, 1979; Tyebjee, 1979a; and Petty and Cacioppo, 1981a). Each recognizes the need for a more precise explication of the involvement construct and for procedures which would allow an a priori determination of consumer involvement. This construct has generated a great deal of interest within marketing and has led Kassarian (1981) to state, "If I am correct, the topic should have an impact that will alter many if not most of our conceptions of consumer behavior models and our middle range theories and seriously challenge the supreme role of cognitive theory in our thinking." Yet, we remain woefully ignorant as to the nature of and procedures for a priori determination of consumer involvement.

### History

Indications of dissatisfaction with the traditional hierarchy of learning model of the persuasion process have been evident in the marketing literature for a number of years (e. g., Appel, 1966; Zajonc, 1968; Bogart, Tolley, and Orenstein, 1970) and are clearly in evidence today (e. g., Lastovicka, 1979a, 1979b; Lastovicka and Bonfield, 1979; Olshavsky and Granbois, 1979; and Kellogg, 1980).

Some criticisms of the traditional multi-attribute attitude formulation (e. g., Fishbein and Ajzen, 1975) are merely suggestions for refinement of the basic model (e. g., Kaplan, 1972; Sample and Warland, 1973; and Yalch and Scott, 1977). Others, however, question the underlying assumptions of the model directly (e. g., Pinson and Roberto, 1973; Nisbett and Wilson, 1977; Bentler and Speckart, 1979; and Kassarian and Kassarian, 1979). A concept of interest to many marketers dissatisfied with the traditional hierarchy of learning model is involvement.

The modern concept of involvement was

originally conceived and developed by Sherif and his colleagues (Sherif and Cantril, 1947; Sherif and Sherif, 1967; and Sherif, Sherif, and Nebergall, 1965) within the social judgement theory of attitude change. These authors were primarily concerned with subjects' stands on social issues. Consequently, application of their methodology has been limited in marketing to such highly involving issues as political races (e. g., Rothschild, 1978; and Rothschild and Houston, 1977 and 1980) and products such as automobiles (e. g., Newman and Dolich, 1979).

In general, this approach to the involvement construct has been criticized as having limited usefulness to marketers. This is because it appears to be more suited to the relatively involving issues of social-psychology than to the relatively uninvolved products of marketing (e. g., Hupfer and Gardner, 1971; and Kassarian, 1981) (see appendix A for a summary of relevant studies).

The popularization of the involvement construct within consumer behavior research is generally attributed to Krugman (Krugman, 1965, 1966-67, 1971, 1977, 1979, and 1980). Initially, Krugman (1965) was intrigued by the obvious success of television

advertising in producing product sales and the concomitant failure of the then prevailing "active" consumer hierarchy of learning explanation of advertising's impact (Robertson, 1976) to account for these sales.

To resolve this apparent contradiction, he proposed a separate "low-involvement" hierarchy to account for the impact of television advertising on the consumer. Krugman argued that the significance "of conditions of low or high involvement is not that one is better than the other, but that the processes of communication impact are different." As figure 1 indicates, Krugman's proposed dichotomy was a radical departure from the traditional hierarchy of learning conceptualization.

Krugman argued that attitudes were simply not held by consumers prior to trial or experience with the product in many cases. The essential difference between a social judgement/attitude theory conceptualization of the involvement construct and Krugman's approach is that the former views involvement as a modifier of attitude and attitude as preceding behavior (e. g., Petty and Cacioppo, 1981a), while the latter argues for behavior resulting from beliefs, alone, without the need for

High Involvement

Cognitive  
↓  
Affective  
↓  
Conative

Low Involvement

Cognitive  
↓  
Conative  
↓  
Affective(?)

Figure 1. Krugman's Dichotomy.



attitude formation (e. g., Krugman, 1965). Recent studies which have employed causal analysis (e. g., Bagozzi, 1981 and Bentler and Speckart, 1979) also provide strong support for past behavior as an alternative determinant of proximal behavior.

Krugman's definition of involvement as "the number of conscious bridging experiences, connections, or personal references per minute that the viewer makes between his own life and the stimulus" (Krugman, 1965) would seem to suggest a cognitive response type of measurement procedure. In his own research, however, Krugman has been guided by the view that, "To me a psychologist is first a biologist. I have always looked to the physiological side of attention and learning for clues as to what was really happening." (Krugman, 1977).

Accordingly, he views low involvement as a passive information processing activity, characterized by predominantly right-brain activity and a fixed eye (Krugman, 1979).

He has employed measures of eye movement, pupil size (Krugman, 1970), and brain wave activity analysis (Krugman, 1971) to support this hypothesis. He also assumes separate memory stores for verbal and pictorial information in the left and right

hemispheres of the brain respectively (Krugman, 1977). He, therefore, argues for the use of recall measures of learning only where verbal memory is expected and views recognition memory as more appropriate for the pictorial memories he associates with low involvement learning.

Since Krugman's seminal work (Krugman, 1965) at least three major schools of thought have developed which offer explanations of low involvement phenomena. First are those approaches which have their roots in Krugman's dichotomy. Second is the dual-systems approach to affective-cognitive reactions advocated most strongly by Zajonc (Zajonc, 1968 and 1980 and Zajonc and Markus, 1982). Third is the traditional model as expressed by cognitive and social psychologists (e. g., Petty and Cacioppo, 1981a and Fishbein and Ajzen, 1975).

The remainder of this chapter will review these major approaches. This review will be followed by a synthesis of the major similarities and points of contention among and between the various approaches. In the next chapter, a case will be made for the Myers-Briggs Type Indicator (MBTI) as an instrument which may prove useful in low involvement research. Several research hypotheses will be presented at that

point and tested by this project.

### Hierarchies

All of the various hierarchical explanations proposed to explain the involvement construct are, essentially, variants of the seminal dichotomization illustrated above in figure 1 (Krugman, 1965). Each however, is somewhat unique in terms of theoretical orientation, purported moderators, hierarchical ordering, or expected outcomes.

#### Three Orders Model

The first alternative to Krugman to appear in the marketing literature was the Three Orders Model (Ray, et al., 1973). This model, depicted in figure 2, was derived from a post hoc analysis of responses obtained from over 8,000 subjects in both laboratory and field experiments. In this initial review, the low involvement hierarchy is posited as occurring most often when there are "minimal differences between alternatives." This was operationalized,

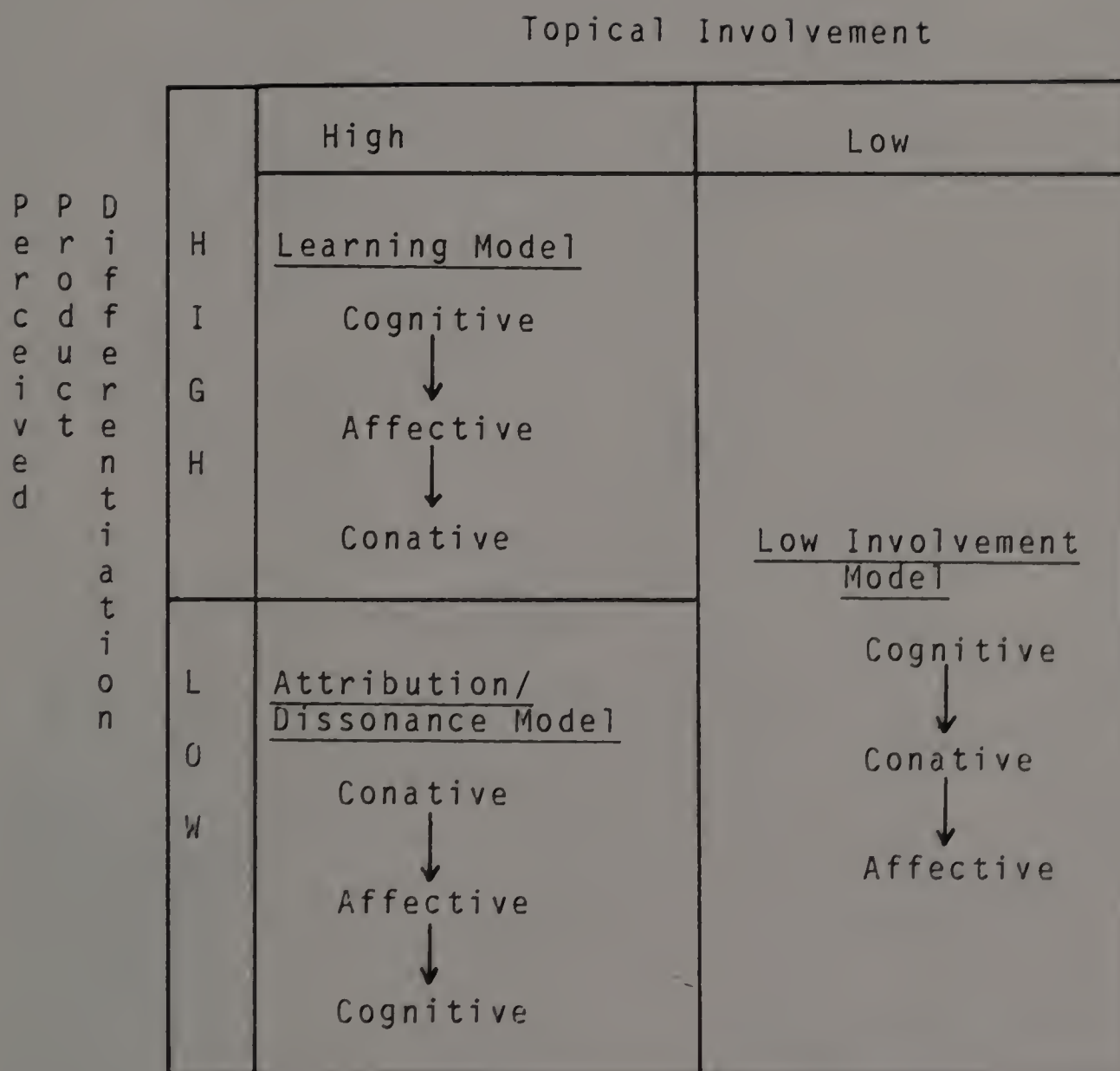


Figure 2. The Three Orders Model.

post hoc, as either the number of "don't know" responses subjects made in evaluating a series of brands, or the extent to which they utilized few points on brand rating scales.

The usefulness of this review is limited to a demonstration of the existence of the three hierarchies through post hoc analysis of data collected for other purposes and is, therefore, less compelling than it otherwise might be. In a study by Ray and Webb (1976), involvement was directly manipulated. The purpose of this study was to assess the impact of clutter on recall of, attitudes towards, and purchase intentions for the test products. The television commercials tested were classified as to level of involvement based on Krugman's connections methodology (Krugman, 1966-67).

In the two experiments reported an unfortunate confounding effect was detected. Apparently, for at least one program, subjects held quite exacting expectations for the typical scheduling and duration of commercial time within the program. Consequently, the authors concluded that this situation may have influenced subjects to be more attentive and involved than would normally obtain, and the results with respect to involvement may be atypical. Although all



were in the expected directions, the effects of involvement on recall, attitude and behavioral intention were less pronounced than expected.

### A Hierarchy of Learning Theories

An alternative conceptualization which reflects the thinking of Ray and Webb (Ray and Webb, 1974) has been presented (Lastovicka, 1979b). This model (see figure 3) views three approaches to learning theory as complimentary rather than competing. Lastovicka contends that the situation will determine, along with individual differences, perceptions, and involvement, which theory is appropriate for the explanation of choice behavior.

Although Lastovicka does not present empirical support for this model, it represents the conceptual perspective he has garnered from past empirical work. He has employed multidimensional scaling (Lastovicka and Gardner, 1978 and 1979), analysis of variance and multiple regression analysis (Lastovicka, 1979a), and free elicitation of subject responses to brands and stands (Lastovicka, 1979b and Lastovicka and Bonfield, 1979) in attempts to explicate the involvement construct.

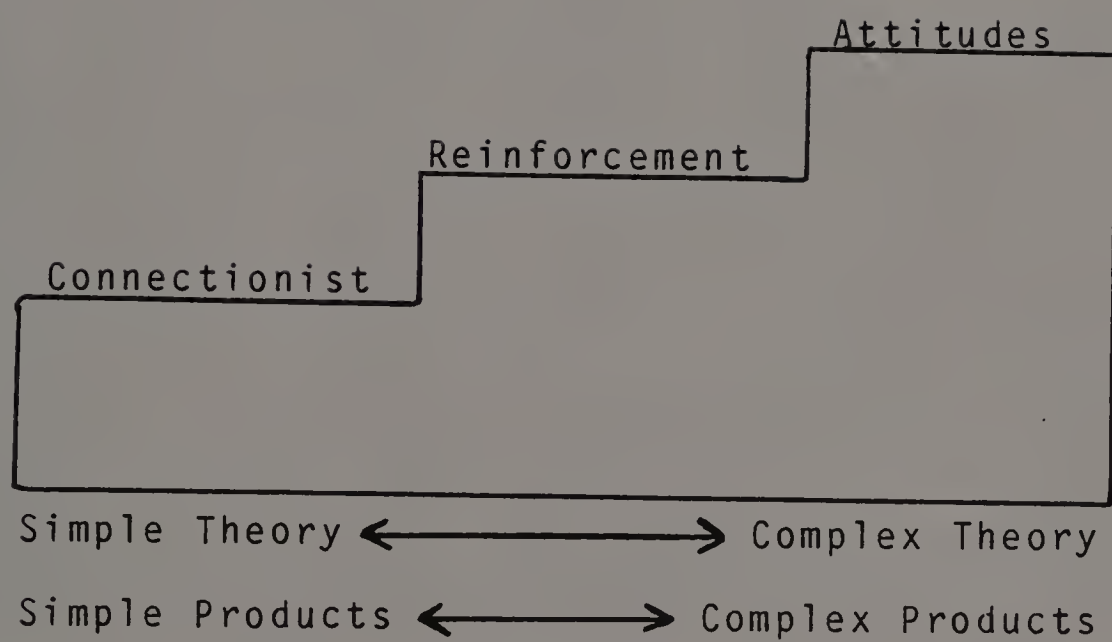


Figure 3. A Hierarchy of Learning Theories.

These studies can be viewed as essentially exploratory and are, therefore, more useful as indicants of potential orientations for future empirical studies than as compelling evidence for the Lastovicka model of a hierarchy of learning theories. As in the Ray, et al. findings discussed above, Lastovicka's conceptualization is primarily post hoc reasoning.

#### Four Orders Model

Several conclusions and observations relevant here have been succinctly presented in a review by DeBruicker (1979). As he states it, "At this point there are no studies that can claim to have obtained data from individuals that could be termed low involvement in an a priori sense."

DeBruicker also posits a hierarchical model (see figure 4). However, unlike prior conceptualizations, DeBruicker argues that involvement may be viewed as both a process and a state. He suggests that a series of paper and pencil measures could be employed to measure subjects' predispositions with respect to benefit structure, product/brand differentiation, and to state of

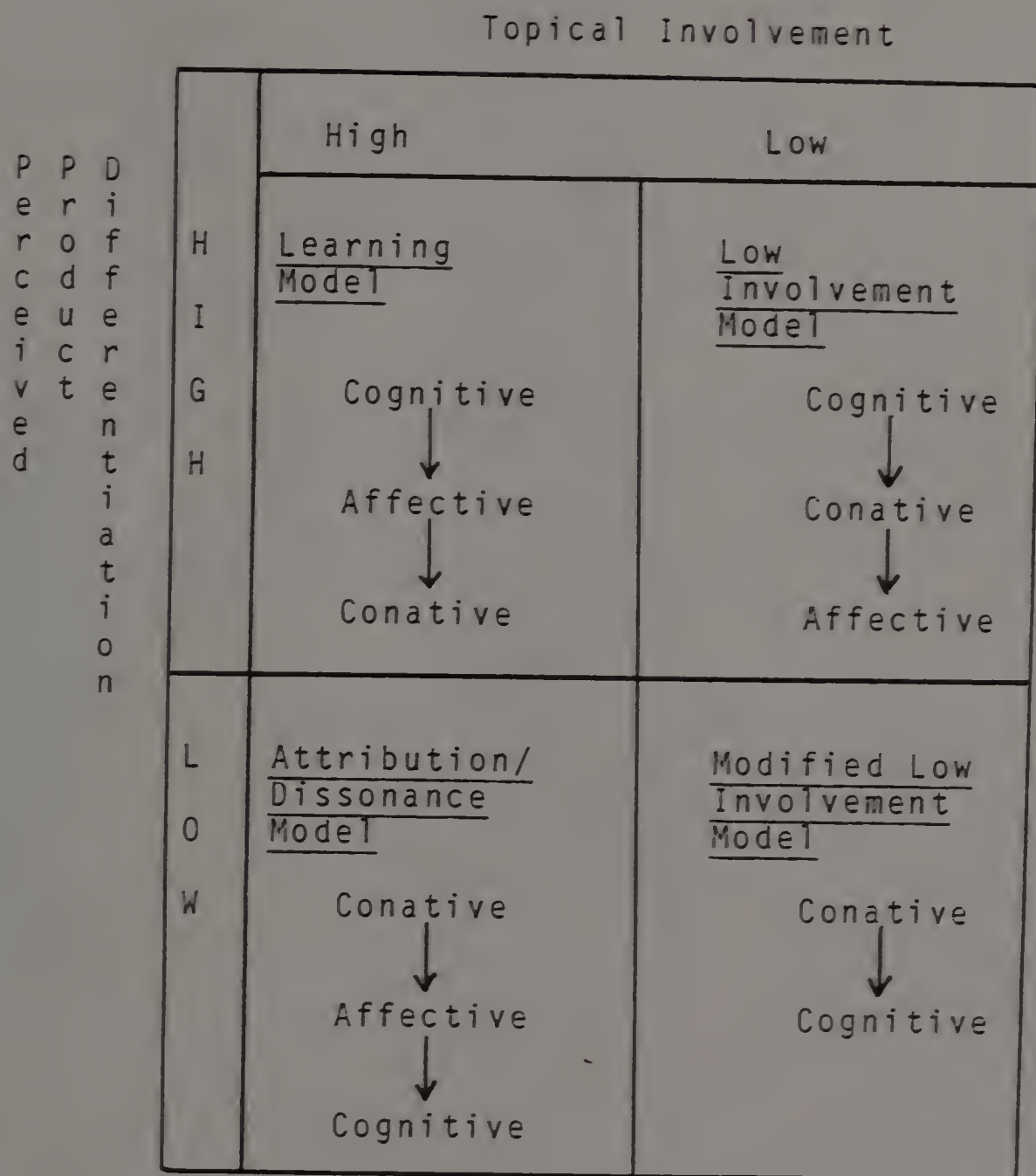


Figure 4. The Four Orders Model.

involvement on an a priori basis. Subjects would then participate in an information processing experiment employing a methodology similar to that utilized by Ray (Ray, et al., 1973).

DeBruicker concludes with three questions he views as fundamental to the explication of the involvement construct:

- 1) Do consumers actually process information as the low involvement model suggests they do?
- 2) If so, what situational and personal factors account for such processing?
- 3) What does all this imply for promotion decision making if anything?

#### Path of Least Resistance Model

As an outgrowth of his work with Ray (Ray and Webb, 1974) on clutter, Webb (Webb, 1980) has proffered a model of involvement which is essentially a modification of the Three Orders Model (Ray, et al., 1973). Webb's model assumes a "lazy" consumer who will invariably choose the path of least resistance in his/her encounters with the media.

The model (see figure 5) is presented by Webb, as he acknowledges, as a conceptual model with no empirical support. Further, his frame of reference is the environment as a "key" variable in information



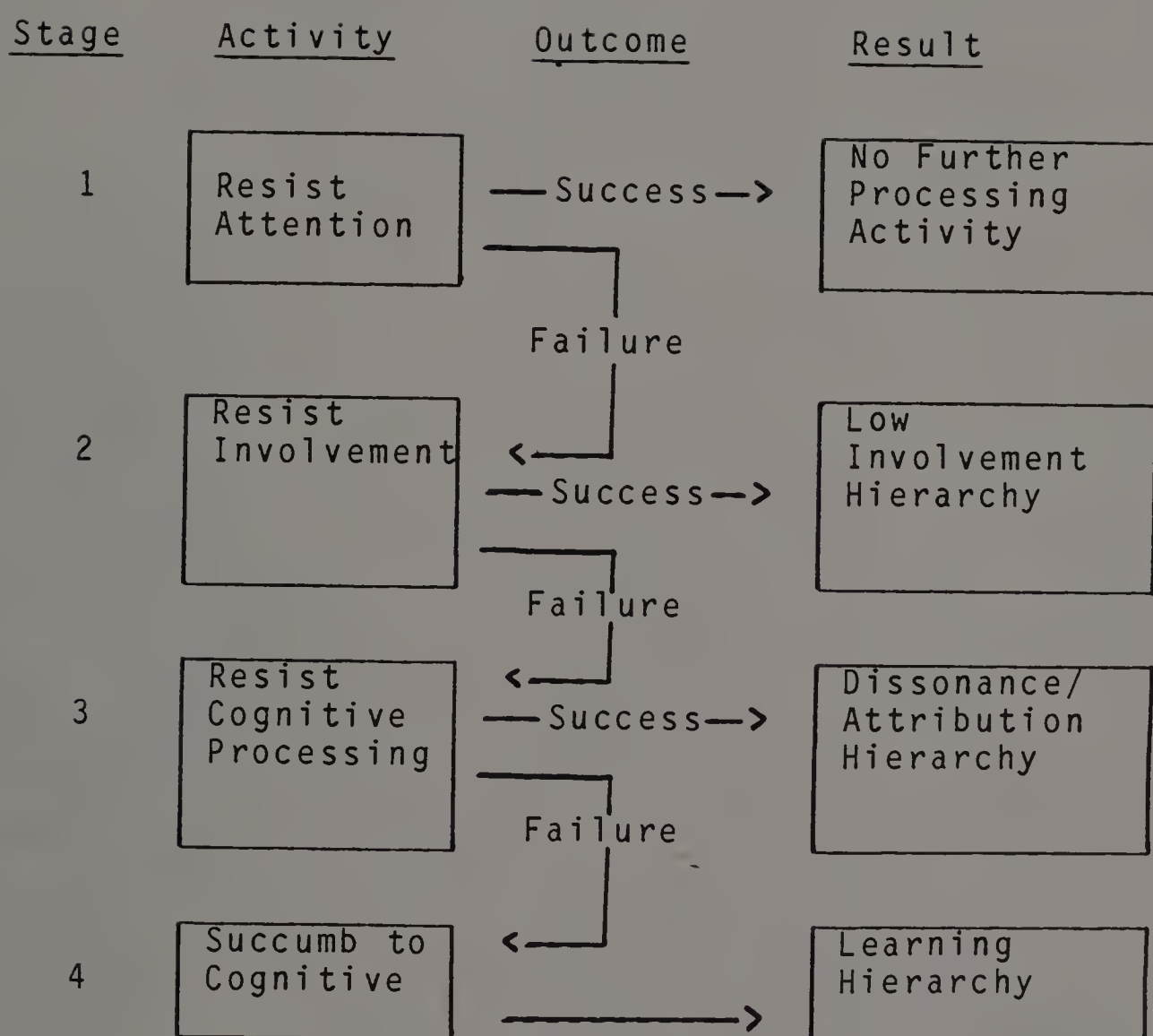


Figure 5. The Path of Least Resistance Model.

processing. Yet the linkage between environment (apparently equated to clutter, e. g., Webb, 1979) and the model is tenuous at best. Webb raises an interesting hypothesis and, unfortunately, leaves the reader unsatisfied by a model which contributes little, if anything, substantively new.

#### The FCB Advertising Strategy Planning Model

Foote, Cone, and Belding advertising agency has developed a planning model which incorporates a potentially significant modification on prior conceptualizations (Vaughn, 1980). While most prior models, at least implicitly, assume an either/or state of low/high involvement on the consumer's part, Vaughn rejects this assumption.

As figure 6 illustrates, Vaughn views the consumer as gradually shifting over time from high to low involvement and from thinking to feeling:

"Thinking and feeling are a continuum in the sense that some decisions involve one or the other, and many involve elements of both. The horizontal side of the matrix conveys this hypothesis and further proposes that over time there is a movement from thinking toward feeling. High and low (involvement) is also a continuum, and the vertical side of the matrix displays this. It is suggested that over time high (involvement) can decay to relatively low (involvement)."

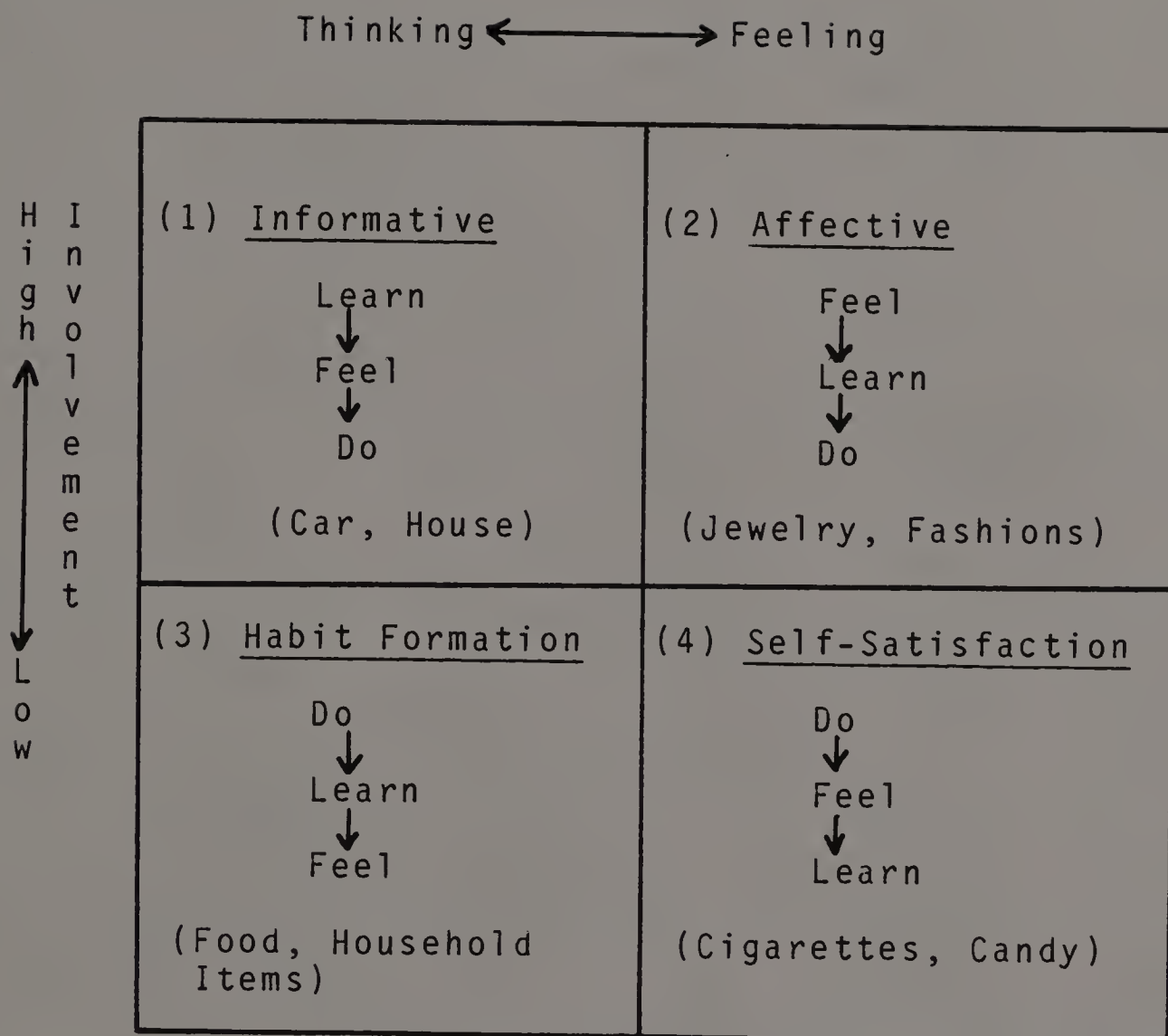


Figure 6. The FCB Advertising Strategy Planning Model.

Ray and Webb (Ray and Webb, 1974) seem to offer implicit support for this notion of involvement decay as they suggest that low involvement is more likely for mature products. It should be noted, however, that this model is also a conceptual construction derived, apparently, from experientially based post hoc analysis.

#### Kassarjian's Personality Model

Kassarjian (1981), at a session devoted to involvement at the eighth annual Association for Consumer Research conference, presented a classificatory scheme (see figure 7) which produced a 3 x 2 matrix of involvement possibilities. Crossing situation or product involvement with individual or personality factors, Kassarjian echoed DeBruicker's (DeBruicker, 1979) concern that it may not be possible to observe truly low involvement in the laboratory (i. e., the low involvement "Know-Nothing").

Consequently, Kassarjian called for a more extensive employment of physiological and unobtrusive measurement and observation of individuals.

Kassarjian also recommends a reassessment of the

Situation Effect  
or  
Product Involvement

I P F  
n e a  
d r c  
i s t  
v o o  
i n r  
d a  
u l  
a i  
l t  
y  
o  
r

	High	Low
High Involvement	Much of Consumer Knowledge as it Exists Today	Typical Low Involvement Research
Low Involvement "Detached Type"	Minimal Interest but Narrowly and Intensely Focused	Oblivious to Product/ Issues Other Interests
Low Involvement "Know-Nothing"	Choice Determined by: Availability Packaging Affordability	Don't Know, Don't Care, and No Opinion

Figure 7. Kassarian's Personality Based Model.



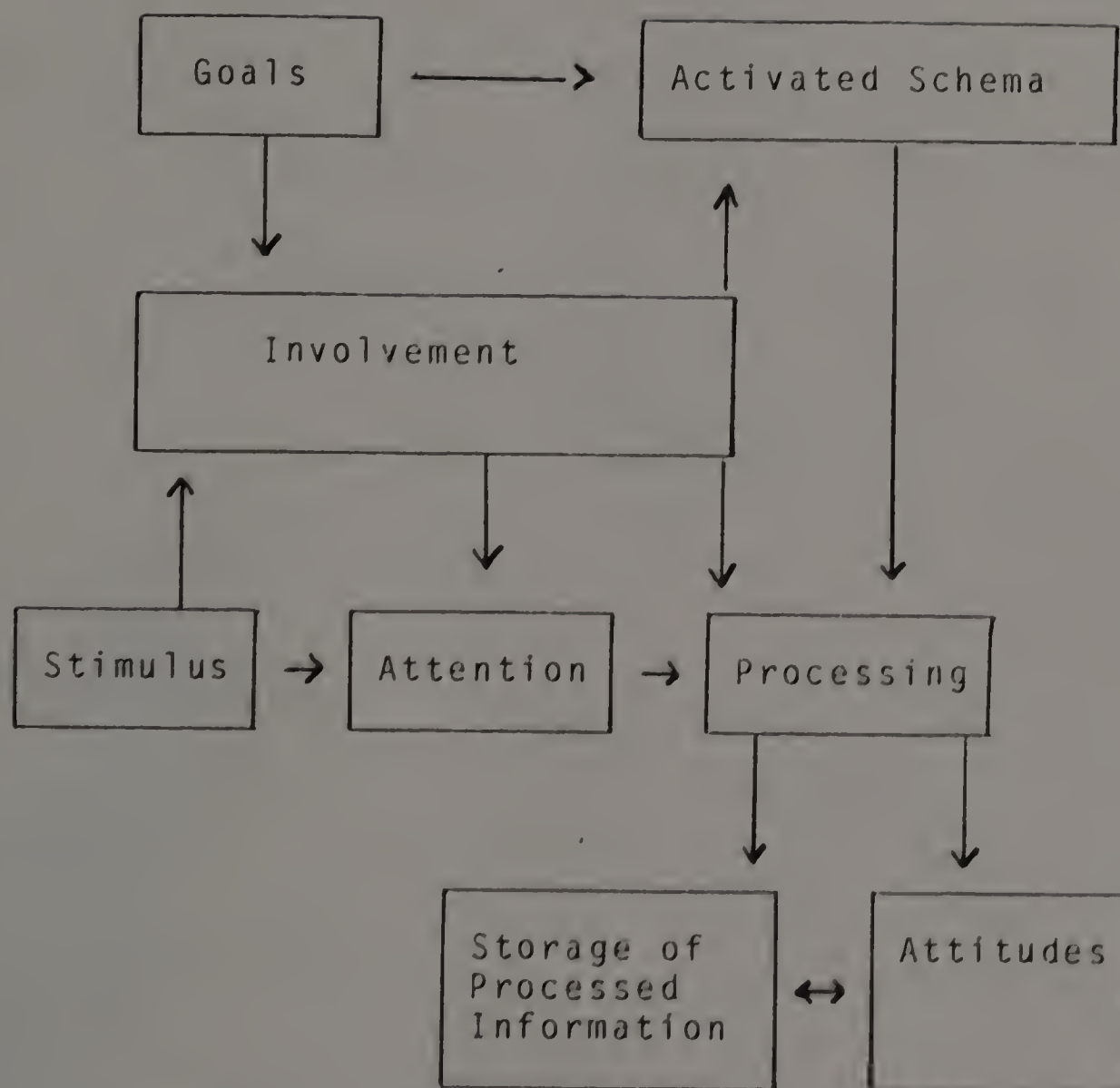
importance of personality and individual predispositions in involvement.

### Mitchell's Models

The approach taken by Mitchell (1981) is unique in that it attempts to position involvement within a nomological network of related constructs (see figure 8). Within this network, involvement is viewed as a moderator variable, as are the individual's goals, and the particular memory schema relevant to processing the information. Mitchell (1981) states:

"In summary then, the content of the stimulus and the goals of the individual determine the amount and direction of involvement during exposure to the advertisement. The intensity of involvement determines how much attention is devoted to the advertisement. The direction of the involvement determines which memory schema is activated, which in turn determines the type of processing that occurs during exposure."

Thus, involvement is viewed as a state variable which is conceptually, as well as operationally, distinct from the information processing itself (Mitchell, 1979). It should be apparent from figure 9 that Mitchell's information acquisition model is clearly a cognitive process model in the spirit of the traditional hierarchy of learning conceptualization (Mitchell, Russo, and Gardner,



(Stimulus content and goals determine amount and direction of involvement.)

Figure 8. Mitchell's Conceptual Model.

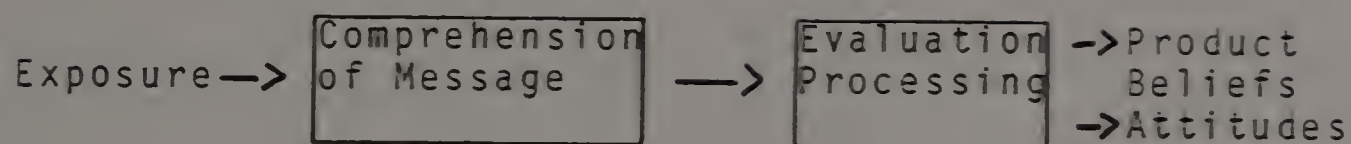
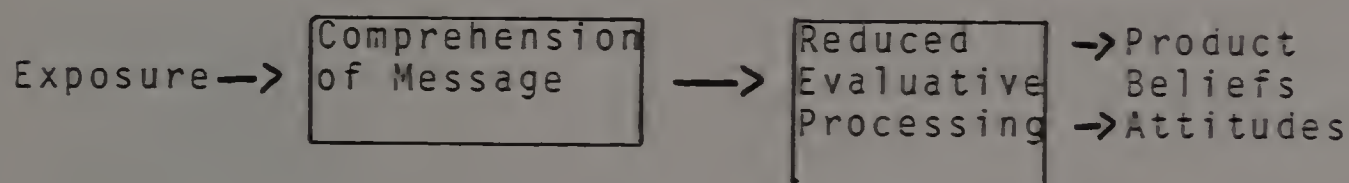
Model I - High InvolvementModel II - Low Involvement 1Model III - Low Involvement 2

Figure 9. Alternative Models of Information Acquisition.

1980).

Note that Mitchell makes no assumptions or predictions concerning the structural aspects of the model which would be inconsistent with the cognition - affect - conation hierarchy. In fact, the functional stopping point of the model is either attitude (affect) as in Models I and II, or beliefs (cognitive) as in Model III. None of these models address the fundamental question of whether or not attitude formation precedes or follows from behavior.

Involvement is manipulated by assigning subjects to either brand evaluation or nonbrand processing conditions. In both conditions subjects are fully attending the print ads. After processing the print ads, subjects respond to a series of brand information and attitude items. Chronometric analysis, a technique for inferring underlying cognitive processing based on response times, is employed to support the hypothesis that different processing strategies lead to different degrees of cognitive processing as described in the models above (see figure 9) (e. g., Gardner, Mitchell, and Russo, 1978 and Mitchell, Russo, and Gardner, 1980).

A fundamental problem with this approach would seem to be that nonbrand processing at full attention

is taken to be low involvement brand processing. If as Zajonc (1980) asserts, low involvement is really a separate process (i. e., affective) from high involvement (i. e., cognitive), then the subjects in Mitchell's experiments are processing information in a high involvement (cognitive) mode in both conditions. The effects observed may, therefore, not be the result of high versus low involvement. Rather, they may be those of high versus non involvement.

#### Leavitt, Greenwald, and Obermiller Model

Leavitt, Greenwald, and Obermiller (1981) present an effects based model (see figure 10) and no empirical study has tested the model directly. The thesis of this model is essentially that the expected consequences for memory of a given message are determined by the level of cognitive responding the individual engages in while processing the message.

The problems with such an approach are, perhaps, insurmountable. If we are to determine the extent of cognitive responding, we must employ some form of thought listing methodology. This approach, as Wright (1980) points out, may not be appropriate



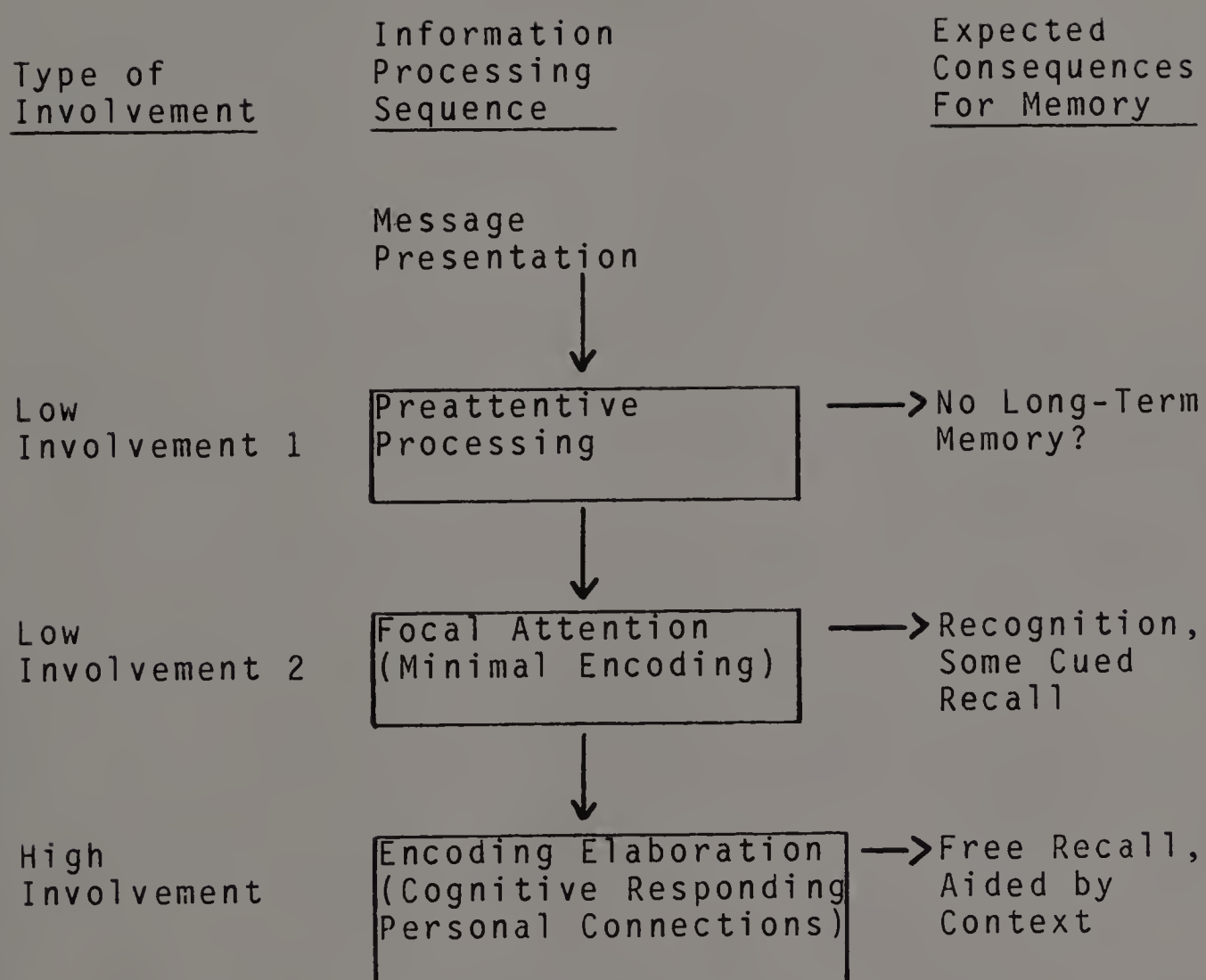


Figure 10. Leavitt, Greenwald, and Obermiller Model.

in low involvement research since the procedure itself may induce high involvement with the message. Indeed, Nisbett and Wilson (1977) question the subjects' ability to report mental processes at all to any significant degree of veridicality. Consequently, the usefulness of cognitive response models ( e. g., Wright, 1973, 1974, and 1980) in low involvement research may be limited, and the authors acknowledge this weakness.

#### Summary

A common characteristic of these hierarchical approaches is their cognitive orientation. This perhaps reflects the fact that these models have been proposed as alternatives to the Fishbein type multi-attribute attitude models. While it is conceded that many consumer decisions are based on limited cognitive processing (i. e., belief based vs. attitude based behavior), the structure of the cognitive model forms the framework for these alternative models. Therefore, they are in a sense constrained to a cognitive conceptualization of involvement.

Recent findings would appear to question this

conceptual approach as overly restrictive (e. g., Zajonc, 1968 and 1980; Langer, 1978; and Semenick, 1982), in that they assume a rational decision making process which includes active cognitive processing of available information. Although these models acknowledge the passivity of the consumer in a low involvement learning situation, what learning that does take place is clearly expected to be cognitive in nature.

The measurement techniques employed in investigation of these models clearly indicate a bias towards semantic representation of information in memory. The majority of the models represent nothing more than an ordinal restructuring of the traditional learning hierarchy (i. e., Fishbein and Ajzen, 1975). As such they do not necessarily refute the so-called high involvement hierarchy. In fact, as will be seen, these alternative hierarchies are quite consistent with the assumptions of the model and do not provide compelling reasons for rejection of the traditional hierarchy.

#### The Dual Systems Approach

Initially, Zajonc's (1968, 1980) interest centered on preferences and the "mere exposure" hypothesis of consumer learning. Basically, this approach argues that preference is an affective, primary, and preconscious response to a novel stimuli which can be made more positive through exposure to the stimulus. Here, affect is distinguished from its typical usage in the marketing literature as a synonym for attitude.

Zajonc (1968 and 1980) reports on a number of experiments in which a variety of novel stimuli are evaluated by subjects on "good-bad" scales. In general, Zajonc reports fairly strong positive correlations between good ratings and familiarity (i. e., among paired stimuli, the more frequently exposed stimuli were generally rated as more "good" than the less frequently exposed stimuli).

This type of reaction is termed a preference, and, according to Zajonc, requires no cognitive processing. This is in contrast to differentiation, the more elaborated and cognitively based evaluation of stimuli that results in the formation of an attitude. This relationship is depicted in figure 11, in which Zajonc presents a simple model which summarizes the relationships between the stimulus and

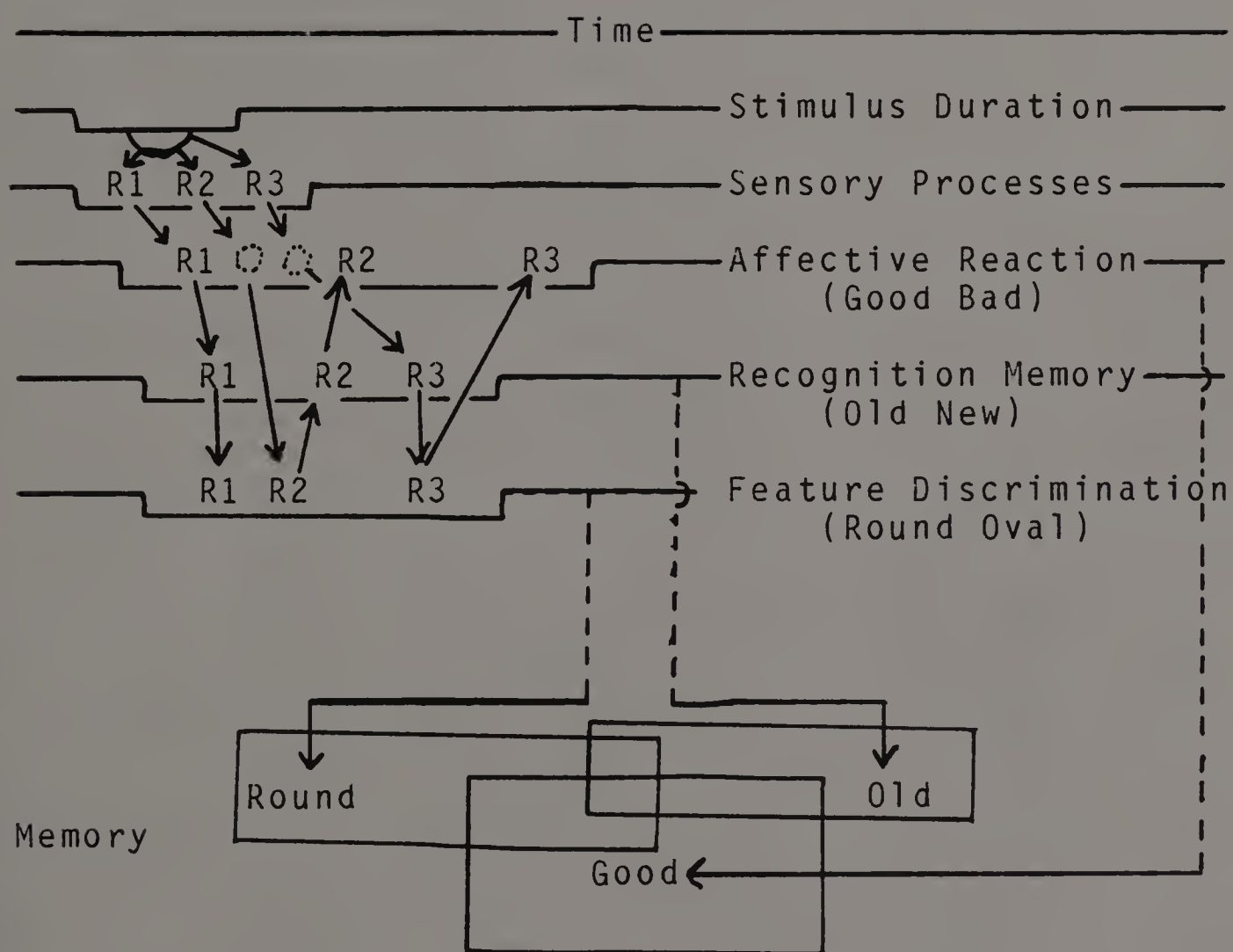


Figure 11. Zajonc's Dual Systems Model.



sensory processes, the affective response, and some cognitive responses (i. e., recognition and feature discrimination) over time.

In a more recent article, (Zajonc and Markus, 1982) the argument is presented that these preferences may be instrumental inputs to subsequent cognitive responses, "...we are stating that there are many circumstances in which the affective reaction precedes the very cognitive appraisal on which the affective reaction is presumed to be based." The authors further propose, "Since attitudes contain such a substantial affective component, they are likely to have multiple representations - and somatic representations are probably among the more significant ones." Reasoning thus, they call for a more extensive examination of these basic sensory-motor responses arguing that a better understanding of these responses will reveal the impact of emotions on information processing.

This approach can be viewed as an attempt to blend the behavioralist (affective) and the cognitivist (cognitive) perspectives. The emphasis, however, is on the affective factors as instrumental inputs to subsequent cognitive responses. This is essentially a hedonistic perspective, in that it is

assumed that those motor responses which afford pleasurable experience will be preferred. This is implicit in the authors' reference to "good feelings" as determinant feelings.

While Zajonc and Markus make an intriguing point when they suggest that cognitive approaches to attitude change are doomed to fail because they "do not reach the motor system and other somatic representational systems of the organism", they fail to acknowledge that a crucial weakness of early motivational research was its inability to determine the direction of arousal although its physiological measures were quite successful in indicating its intensity.

In fact, it should be noted, much of the evidence presented in favor of the dual-systems hypothesis is based on subjects' reactions to and preferences for novel stimuli. Zajonc (1980) says as much in a footnote, "It is those first affective reactions (that is, those elicited when individuals are asked to evaluate objects totally novel to them) that I wish to consider at this point." This is hardly the typical situation encountered in viewing advertising. Perhaps more important to marketers contemplating the usefulness of the dual-systems

hypothesis is an earlier quote (Zajonc, 1968), "It is likely that exposure effects for very familiar objects are absent completely or are so small that they cannot be detected at all by methods now available."

This statement seems to be clearly upheld by Gorn's (1982) experiment in which alternative hypotheses based on a dual-systems approach versus a classical conditioning approach are compared. Gorn, quite appropriately, rejects the dual-systems explanation in favor of the classical conditioning explanation for the effects of differing musical backgrounds on product choice.

Thus, while Zajonc's hypothesis may have merit for situations involving novel stimuli presented in isolation, this is clearly not the typical case for advertising stimuli. This does not entirely refute the mere exposure hypothesis, but it does cast serious doubt on the prepotency of mere exposure as an explanatory construct where other cues are present.

Closely related to the dual systems hypothesis is the notion of hemispherical lateralization of brain functions (e. g., Galin, 1974). This approach relies on the early findings of split-brain research

which suggests that the left hemisphere is responsible for information processing in an analytic, logical mode and the right hemisphere in a holistic, gestalt mode. These modes are utilized as different cognitive styles for processing the same information (Galin, 1974). These initial findings have led to a number of intriguing suggestions for marketers.

Attempts have been made to measure brain wave responses to advertising (e. g., Krugman, 1971; Appel, Weinstein, and Weinstein, 1979; Weinstein, Appel, and Weinstein, 1980; and Weinstein, 1980); develop a pencil and paper measure of left-right brain dominance (e. g., Hansen, 1981; Hansen and Lundsgaard, 1981); as well as a proposal which loosely links hemispheric lateralization to affective response (e. g., Semenik, 1982). In general, the results of these efforts are constrained by inadequate measurement technology and the difficulty inherent in linking mental processes to physiological responses (e. g., levels-of-analysis).

#### The Attitude Theory Approach



This section focuses on the approaches to the involvement construct which maintain that low-involvement effects can be adequately explained within the framework of the traditional hierarchy. These authors contend that the numerous approaches for separate hierarchies which have been proposed are premature and unwarranted.

#### Relevant Assumptions of the Fishbein-Ajzen Model

This traditional hierarchy is most evident in consumer behavior research in the form of the multi-attribute attitude models (e. g., Fishbein and Ajzen, 1975) in which the following is assumed:

$$B \approx BI = Aact = \sum_{i=1}^n b_i \cdot e_i$$

Where:

B is the behavior

BI is the intention to perform the behavior

Aact is the attitude towards the behavior

$b_i$  is the  $i$ th belief with respect to the outcomes related to performing the behavior

$e_i$  is the evaluation of the  $i$ th belief

It should be noted here that the full Fishbein and Ajzen model also includes a normative component, as indicated in figure 12. However, this component is generally conceded to be irrelevant for consumer behavior under conditions of low involvement. In one sense, the success of this model has contributed to



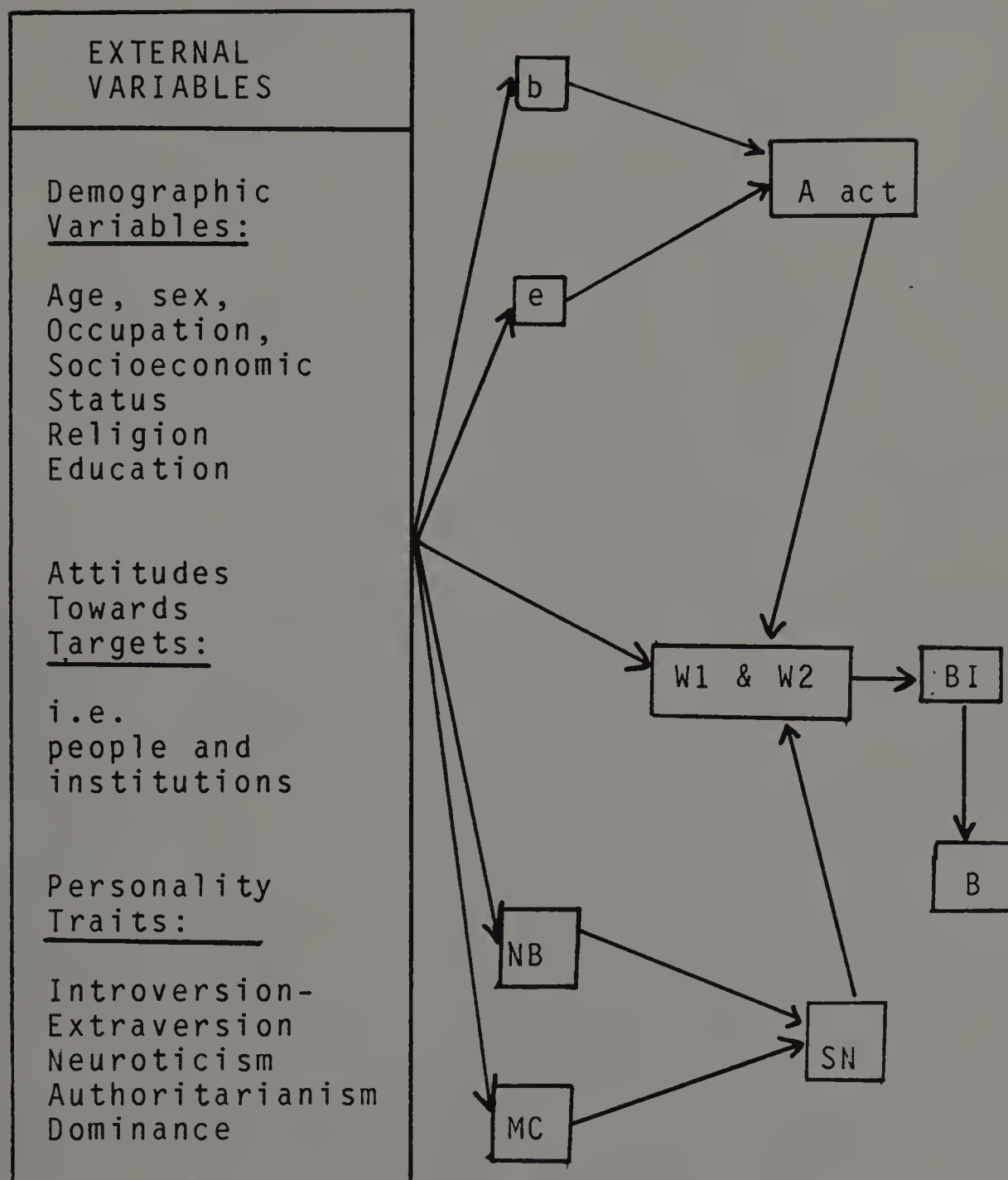


Figure 12. Fishbein and Ajzen Model of Attitude Formation.

the development of the involvement construct. This approach has tended to dominate consumer behavior research to the virtual exclusion of the alternative approaches. However, many instances of consumer behavior do not appear to conform to the specifications of the model. Two reasons for this are apparent. First, the model, in many instances, is not clearly understood by its critics. Many, for example, assume that each individual behavior is to be associated with a specific attitude. This is simply not the case, and is analogous to the self-destructive excesses of the instinct theorists who sacrificed parsimony for the sake of untenable and unmanageable specificity.

Secondly, the critics assume that the theory requires these specific attitudes to be fully developed prior to any behavior occurring. Once again, this is simply not true. In Fishbein and Ajzen's 1975 text, they specify three mechanisms by which the individual may develop beliefs which in turn serve as the input to the development of an attitude.

The possible mechanisms are summarized by Fishbein and Ajzen (1975), "First, a link between O and X may be actively established on the basis of

direct observation (descriptive belief). Second, a link between O and X may be actively established through a process of inference from some other belief about O (inferential belief). Finally, a link between O and X may be established by some source and this link may be accepted (informational belief)."

Therefore, the individual may, indeed, perform some specific act towards some specific object as an expression of direct observation. This specific act may, therefore, be guided by what Fishbein and Ajzen (1975) term a global attitude towards a class of behaviors, say information gathering, while no specific attitude as yet exists towards the specific object of the act. In other words, I may purchase a new soft drink simply to learn what it tastes like, having no prior attitude towards this specific brand to direct my behavior. Rather I may be directed simply by the desire to have full information with respect to the alternatives available to satisfy my thirst.

Where the theory does lack specificity and is properly criticized is in its treatment of these global attitudes and the mechanisms by which they are formed. Hence, if we know the beliefs, attitudes, and intentions of an individual we may successfully

predict his/her behavior. What may be of more interest to marketers, however, are the factors which Ajzen and Fishbein (1980) view as "external variables" (see figure 12). These external variables (demographic variables, attitudes towards targets, and personality traits) are presumed to influence the development of the individual's belief structure as well as the individual's perceptions of the importance of one's own beliefs in relation to the beliefs of others directly. Indirectly, these variables are assumed to influence the development of attitudes, subjective norms, behavioral intentions, and behavior.

Because of the presumed direct relationship between these external variables and development of beliefs, it would seem that an examination of these variables might prove useful in understanding the involvement construct.

#### Petty and Cacioppo's Elaboration Likelihood Model

Consistent with the notion of Fishbein and Ajzen's "global" attitudes, Petty and Cacioppo (1981a) developed the elaboration likelihood model of attitude change. These authors explicitly reject the



low involvement model as presented by Krugman (1965). Petty and Cacioppo (1981a) argue that attitude is present but less elaborated under low involvement than under high involvement. This is presumed to be due to the attitude being based upon peripheral cues present with or in the message rather than upon arguments or the issues themselves (see figure 13). As the model indicates, the authors view involvement as a function of motivation and ability. These two factors are presumed to affect the elaboration likelihood of the message. As the authors state it:

"In practical terms, the model suggests that when a person seeks to change another person's attitudes, the elaboration likelihood of the persuasion situation should be assessed (i. e., how likely is it that the person will be motivated and able to think about the message?). If elaboration likelihood is high, and if there are compelling arguments to present, the central route may be the best strategy to pursue. This is the most ideal strategy, because a relatively permanent change in attitudes will be produced. On the other hand, if the only arguments available are weak, or if elaboration likelihood is low, then the peripheral route will be a more promising strategy." (Petty and Cacioppo, 1981a).

Although Petty and Cacioppo believe that peripheral routes lead primarily to temporary attitude change, they also hypothesize that, "Ironically, once we have made a decision and bought Brand Y or voted for candidate A, because of the dissonance associated with the choice we may then



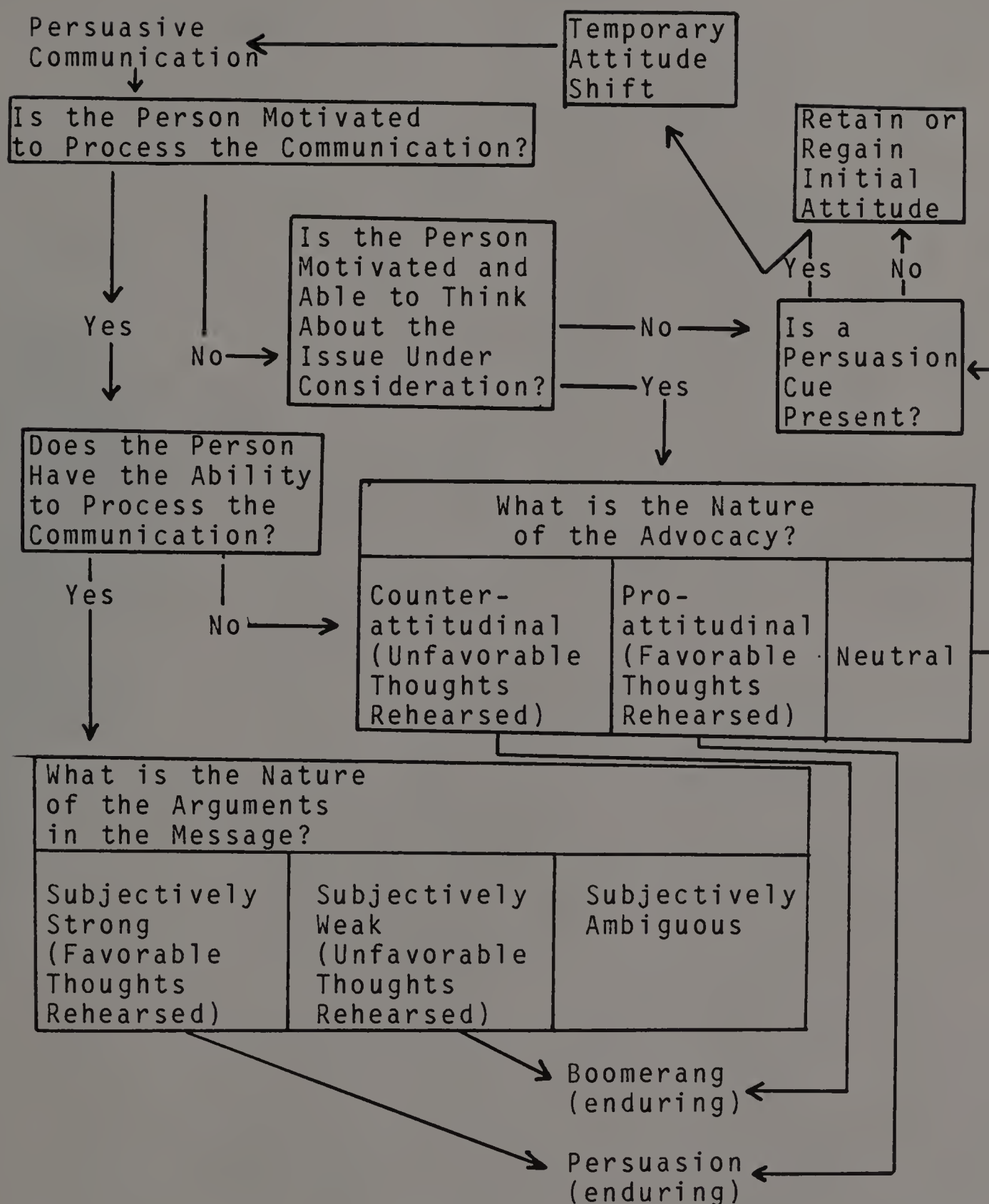


Figure 13. Elaboration Likelihood Model of Attitude Change.

become motivated to think about the product or candidate and generate bolstering cognitions that then produce a more permanent change in attitude." (Petty and Cacioppo, 1981a). This is consistent with Calder's (1979) interpretation of the involvement construct and is also similar to the approach developed by Smith and Swinyard (1982).

#### Integrated Information Model

Citing a wide variety of empirical studies, Smith and Swinyard (1982) review several advertising response models including the traditional hierarchy of learning and the low involvement model to present an integrated information response model. The central thesis of this model (see figure 14) is that much of consumer behavior is engaged in for the purpose of information gathering rather than as an expression of affect (i. e., attitude). This is consistent with the diffusion of innovation approach as well as incorporating Fishbein and Ajzen's (1975) notion of observational and informational belief formation. The authors contend that beliefs based on direct experience are of a higher order and less subject to refutation than those based on

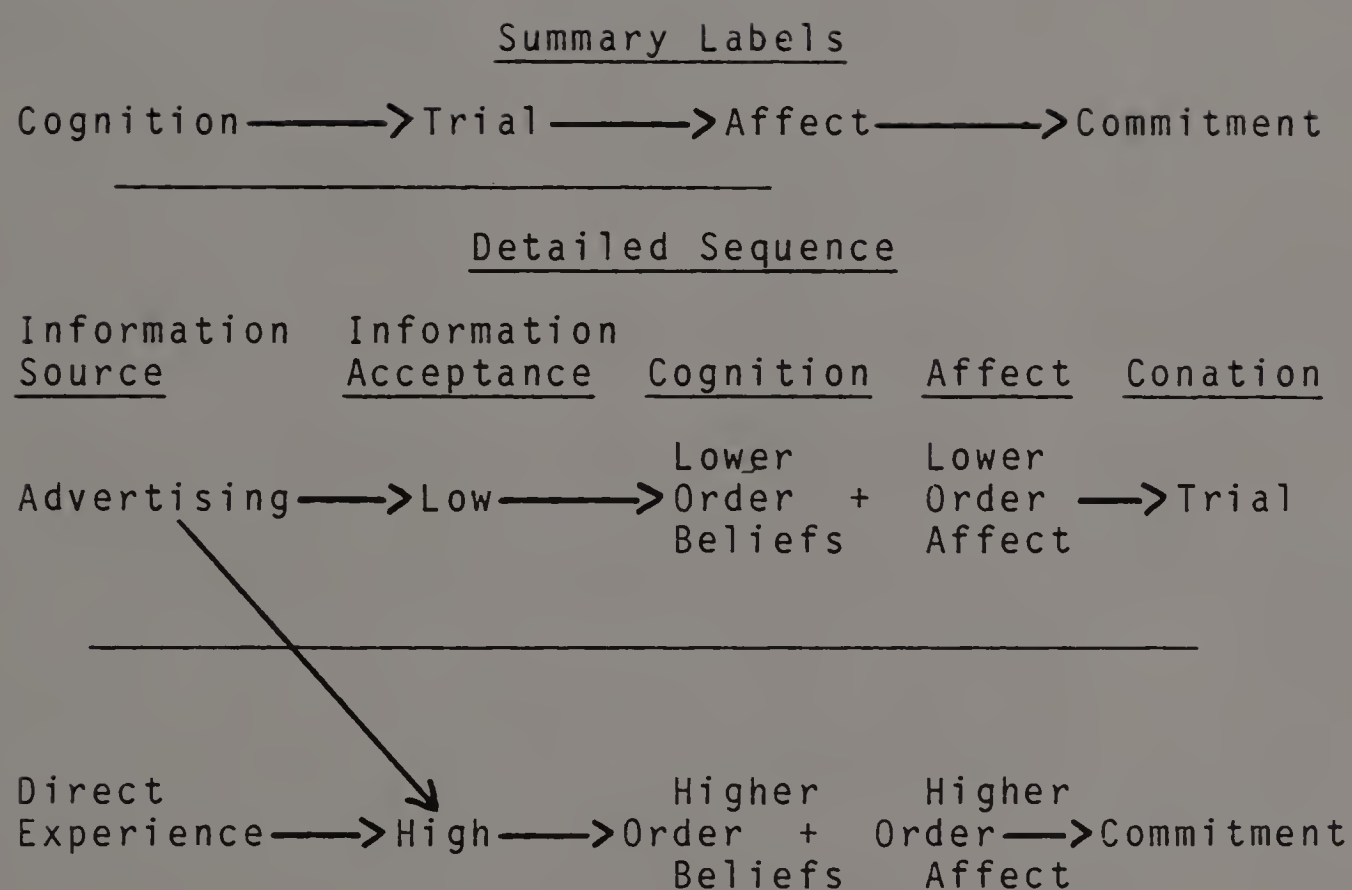


Figure 14. Integrated Information Response Model.

advertising.

On the basis of this argument, they suggest advertisers should focus persuasive appeals on inducing product trial rather than on changing attitudes. This is essentially the peripheral route to attitude change (Petty and Cacioppo, 1981a) and is consistent with the authors' earlier research (e. g., Swinyard and Coney, 1978; Swinyard and Patti, 1979; and Smith and Swinyard, 1980).

#### Attitude Towards the Ad

Another emerging approach the advertising response problem is the concept of attitude towards the ad (e. g., Shimp, 1981; Mitchell and Olson, 1981; Lutz, MacKenzie, and Belch, 1983). An emphasis on attitude towards the ad is a recognition that advertisements are not always viewed as informational inputs to a cognitive decision process. Advertising may also be viewed, in an affective sense, for its own sake. This is implicit in Petty and Cacioppo's (1981a) peripheral route in the elaboration likelihood model. In terms of the traditional model (i. e., Fishbein and Ajzen, 1975) we could view this as a distinction between an

attitude towards a brand presented in an advertisement versus an attitude toward an advertisement presenting a brand.

Likewise, in consumer response to advertising studies there is a definite bias towards the cognitive stages. As Rossiter and Percy (1978) state, "Research on consumer response to advertising, however, has focused almost exclusively on verbal information processing." There is at least implicit recognition of this in the fact that recent contributions to the literature have focused attention on precognitive stages (e. g., Zajonc and Markus, 1982; Chaiken, 1980; and Gorn, 1982). Affective response is a precognitive response which merits investigation at this point.

#### Affective Response: A Precognitive Moderator of Involvement?

Petty and Cacioppo (1981a) make a distinction in their elaboration likelihood model between central and peripheral routes to attitude change. The prerequisites to central processing are ability to process the communication and motivation to process the communication. Assuming that ability is not a



limiting factor in most advertisements for frequently purchased consumer nondurables, it would appear that motivation to process will determine whether central versus peripheral processing strategies will be employed in a given situation. It would seem reasonable to assume that an individual would be more likely to be motivated to process advertising which elicits a positive affective response than advertising which elicits a negative affective response.

Indeed, under conditions of low involvement, it may be necessary to achieve a positive affective response to motivate the individual to process information via the central route toward attitude change. To be sure, a positive affective response, per se, may not motivate central route information processing. It is quite possible that the response may be associated with some peripheral cue (i. e., the sexy model). However, without a positive affective response, it seems highly unlikely that the consumer will be motivated to process the communication in anything but a peripheral manner.

Given a positive affective response, one would expect, at a minimum, that attitude towards the ad (Aad) (e. g., Shimp, 1981) would be positive. There

seems to be a growing consensus that positive Aad is related to positive attitudes towards the brand (Ab) and an increased likelihood of brand purchase (e. g., Shimp, 1981; Mitchell and Olson, 1981; Lutz, MacKenzie and Belch, 1983).

Basically, the interest in this concept reflects an evaluative consistency rationale (Fishbein and Ajzen, 1975). This thesis implies that a positive evaluation of the ad will strongly enhance the likelihood of a positive evaluation of the brand in the consumer's mind. Bartos (1981) implies that the initial consumer reaction to a brand's advertisement affects the consumer's reaction to the brand itself. This notion has been supported by Gelb and Pickett (1983).

As appendix B indicates, these studies have, for the most part, measured Aad by the traditional technique of consumer responses to evaluative scales concerning the attitude object. Consequently, these responses are different in degree, but not kind from measures of Ab. Although some authors have argued that the processes leading to Aad differ substantively from the processes leading to Ab (e. g., Rossiter and Percy, 1978 and 1980), the fact remains that the responses which have been measured

are not indicative of lower order processes. For example, Mitchell and Olson's (1981) results can be interpreted as based on what Fishbein and Ajzen (1975) refer to as inferential beliefs.

The argument here is that if we are to support the notion that Aad's and Ab's are derived from conceptually distinct processes, then we must measure these distinct processes and not conceptually identical outcomes (i. e., attitudes). Abelson, et al. (1982), make a similar point when distinguishing between the wording of affect questions and the wording of trait questions. They state, "The former wording solicits past episodes, the latter wording present judgements." If we view the typical attitude scale as a trait question, it is plain that Aad is measuring present judgement, and not past episodes (i. e., processes).

### Summary

Finn (1982 and 1983) presents a summary of the basic position of the attitude theorists. As he states it, there are two important points to be recognized. First, low involvement learning and low involvement behavior are separate constructs. The

implication is that the two constructs should not be equated and that low involvement behavior is simply one source of information to aid in the eventual formation of an attitude. The second point emphasizes this by asserting that the low involvement sequence (e. g., Ray's Cognition - Conation - Affect) is not a separate hierarchy at all. Rather it is an incomplete hierarchy as conceptualized by Smith and Swinyard (1982).

### Conclusion

In conclusion, there would appear to be at least three primary schools of thought on the involvement phenomenon. First, those approaches which are derived from Krugman's (1965) dichotomization of involvement into two learning hierarchies. In all forms, these hierarchies have at least two common threads. First, separate learning/information processing hierarchies are proposed to account for the differing effects observed in cognitive structure across individuals responding to the same or similar communications



under differing conditions of presentation or processing strategy. Secondly, attitude is not deemed necessarily to precede behavior and beliefs alone may suffice to trigger behavior.

While these hierarchical approaches argue for essentially cognitive (i. e., belief based vs. attitude based) determinants of consumer behavior, the dual systems approach (e. g., Zajonc and Markus, 1982) denies the prepotency of cognitive responses. Rather, they present a separate systems orientation, viewing affective (lower order) and cognitive (higher order) systems as distinct from one another and equally capable of instigating consumer behavior. Under this approach, affect based behavior need not be prompted by any cognition whatever (i. e., neither beliefs nor attitudes are viewed as necessary prerequisites to behavior).

Finally, the attitude theory approach argues that the need for alternative explanations is not clearly demonstrated. As several authors argue (e. g., Petty and Cacioppo, 1981a and Finn, 1982) the traditional model of behavior as attitude based can account for the results of the various alternatives proposed. In particular, the integrated information response model (Smith and Swinyard, 1982) with its



roots in the theory of reasoned action (Ajzen and Fishbein, 1980) offers a lucid, theory based model of consumer attitude formation that is both well supported and parsimonious.

As was noted above, Fishbein and Ajzen (1975) and Kassarian (1981) have suggested personality traits as being a potentially determinant factor in the formation of beliefs and attitudes. The next chapter presents an overview of cognitive style approaches to personality.

A review of this literature indicates that the theory of psychological types espoused by Jung (1923) offers a particularly cogent framework for the study of consumer responses to advertising under conditions of low involvement. The theory focuses on learned preferences, arguing that individuals differ not only in how they will perceive information but in what information they will perceive as well. Judgements (e. g., purchase decisions) are then based on these perceptions. So, from a consumer behavior perspective, the initial problem is to present information in a manner that is consonant with individual preferences with respect to perception.

## C H A P T E R I I I

### THE ROLE OF COGNITIVE STYLE IN CONSUMER RESPONSE TO ADVERTISING

#### Introduction

This chapter is designed to accomplish two objectives. First, to review recent developments in the marketing literature which signal a reemergence of personality, as indicated by cognitive style, as a concept of interest to marketers. Second, an approach to cognitive style relatively new to marketing, Jung's (1923) theory of psychological types, will be discussed. This particular approach offers unique strengths cogent to the study of involvement over presently employed approaches.

#### Personality

#### Introduction

As indicated in chapter two, personality is viewed by many to influence the formation of beliefs,

attitudes, intentions, and hence, to impact on behavior (e. g., Fishbein and Ajzen, 1975). Wells and Beard (1973) also note that, at the very least, on an implicit level our understanding and conceptualization of personality effects our thinking and theorizing as consumer behavioralists. This is so because, whether consciously or not, we hold certain expectations concerning the motivations, cognitions and/or behaviors of the consumers we attempt to theorize about and explain.

This is, in effect, a personality theory. (See Olson, 1981 for a more complete discussion of this point.) Consequently, the commonly held assumptions concerning personality, its study, and its usefulness in explaining consumer behavior may provide valuable insights for the development of involvement as a construct.

That is, if the formation of the traditional hierarchy parallels the implicit assumptions with respect to personality prevalent at that time, it is possible that the development of the construct of involvement as a moderator of that hierarchy, likewise, parallels a reorientation in our thinking with respect to personality. The following brief review of the personality literature within marketing

would seem to support this view.

### Background

For many marketers personality is considered to be an ineffectual predictor of consumer behavior. This generally accepted notion that attempts to relate consumer behavior to personality will produce, at best, weak explanations can be largely attributed to the influential reviews published by Wells and Beard (1973), Kassarian (1971), and Kassarian and Sheffet (1975 and 1981). These reviews took a generally negative view of the results of personality research as practiced by marketers. Their impact on the field is obvious if one scans the bibliography of Kassarian and Sheffet's (1981) latest review. It is clear that the number of publications related to personality in the marketing literature has decreased dramatically between 1975 and the present.

In response to these negative reviews Percy argues that the lack of results is a function of the piecemeal approach of many marketing studies to the construct of personality. He states, "Personality implies a whole, not a string of personality traits. Why should it be surprising that a single personality

trait, which may co-vary in a multitude of ways with other traits, fails to contribute on its own much to the prediction of a specific consumer behavior such as brand or product choice." (Percy, 1976).

In addition Mischel (1977) had this to say about the usefulness of trait oriented research, "Traditionally, trait oriented research has studied individual differences in response to the "same" situation, usually in the form of a standard set of questions. But some of the most striking differences between persons may be found not by studying their responses to the same situation but by analyzing their selection and construction of stimulus conditions." This view suggests a new perspective which may prove useful to marketers. It implies a focus upon the structure rather than the substance of perception.

This orientation is characteristic of the research which has been conducted within the personality field under the cognitive style approach. As Goldstein and Blackman (1978) state, "Common to all theory and research on cognitive style is an emphasis on the structure rather than the content of thought. Structure refers to how cognition is organized; content refers to what knowledge is



available..." This approach has attracted interest among marketers and is generating a renewed interest in personality among marketers (e. g., Kasulis and Zaltman, 1977; Malhotra, Pinson, and Jain, 1979; and Zinkhan and Martin, 1983).

### Cognitive Style

Bieri (1971) identifies four theoretical bases for cognitive structure theories: cognitive personality theory; psychoanalytic ego-psychology; field theory; and schema theory. Marketers' interest in the approach has centered on the former two bases (e. g., Coney, 1972; Coney and Harmon, 1979; Tan and Dolich, 1980; and Wallendorf and Zinkhan, 1980).

### Cognitive Personality Theory Approaches

Marketers employing this theory base have, for the most part, designated cognitive complexity as the relevant indicator of cognitive style. Cognitive complexity is generally defined "in terms of the

number of dimensions used in a differentiated manner to evaluate objects. A person who provides few differences in ratings of brands on his repertoire of dimensions is classified as cognitively simple. Conversely, a cognitively complex person provides many differences in ratings of brands for many dimensions." (Tan and Dolich, 1980).

Three measurement techniques have been employed to assess cognitive complexity by marketers. One approach is a modification of Kelly's (1955) Role Construct Repertory Test (RCRT) attributable to Bieri (1966) (e. g., Burnkrant, 1978; Durand, 1979 and 1980; Tan and Dolich, 1980 and 1981; and Conover, 1981). A second approach is based on the G.G.W.S. Object-Sorting Test (Goldstein and Sheerer, 1941) and information theory and is attributable to Scott (1962) (e. g., Wallendorf and Zinkhan, 1980; Kanwar, Olson, and Sims, 1981; and Zinkhan and Martin, 1981 and 1983). The third approach is an objectively scored substitute for Schroeder and Streufert's (1962) Sentence Completion Test, the Interpersonal Topical Inventory, developed by Tuckman (1966) and employed in a marketing context by Kasulis and Zaltman (1977).

Bieri's modified rep test. The Modified Rep

Test (MRT) is a 10 x 10 grid "...containing spaces for persons to be judged (columns) and rows for constructs" on which the persons are to be judged (Bieri, et al., 1966) (see figure 15). Bieri, et al., (1966) explain the scoring of an individual's MRT thus:

"Cognitive complexity is measured by comparing each rating in a row with the rating directly below it (i. e., for the same person) in the other rows of the matrix. In comparing any two construct rows, a score of one is given for every exact agreement of ratings on any one person. This procedure is carried out for all possible comparisons, and the scores for each comparison are added to give one total score. Since there are 45 possible row comparisons in a 10 x 10 matrix, the highest possible score is 450. A score of 450 would indicate that the judge gave the same rating on all bipolar constructs to all role types. This judge would be relatively cognitively simple because he is using his construct dimensions in an identical manner to construe all the individuals on the grid. On the other hand, a person with a score as low as 100 is presumed to be relatively cognitively complex because he uses constructs differently in discriminating among people.

A key distinction of the MRT is its use of the semantic differential scales by which the researcher provides the constructs to be employed by subjects in their ratings of persons. In the original RCRT (Kelly, 1955) constructs were elicited from the individual. This modification facilitates


1. Yourself  
 2. Person you dislike  
 3. Mother  
 4. Person you'd like to help  
 5. Father  
 6. Friend of same sex  
 7. Friend of opposite sex (or spouse)  
 8. Person you feel most uncomfortable with  
 9. Boss  
 10. Person difficult to understand

+ 3      +2      +1      -1      -2      -3

1. outgoing	shy
2. adjusted	maladjusted
3. decisive	indecisive
4. calm	excitable
5. interested in others	self absorbed
6. cheerful	ill humored
7. responsible	irresponsible
8. considerate	inconsiderate
9. independent	dependent
10. interesting	dull

+ 3      +2      +1      -1      -2      -3

Figure 15. Bieri's Modified Rep Test.

standardization of measurement without significantly affecting the classification of individuals (Bieri, et al., 1966).

Marketing applications of Bieri's MRT. Central to the use of the MRT is the assumption that cognitive complexity is a domain specific construct. Bieri, et al., (1966) posit three structural properties of cognition in support of this notion (i. e., differentiation, articulation, and integration). Wallendorf and Zinkhan (1980) summarize these properties in relation to information processing skills displayed by cognitively complex individuals. They state that such individuals "...would have more dimensions on which they could evaluate products (differentiation), more gradations on each dimension (articulation), and a greater ability to synthesize all of this information (integration)."

In terms of product involvement, this would seem to suggest that low involvement with a given product would be accompanied by relatively simpler cognitive structure with respect to the product. It would also seem to suggest that relatively more complex cognitive structure would be associated with greater product familiarity.

The two studies which have attempted to provide



support for these assumptions, however, have not been convincing (i. e., Burnkrant, 1978 and Conover, 1981). Burnkrant (1978) argues in favor of the domain specificity of cognitive complexity, but the results of his study provide only weak support. He argues that the utilization of available cues (i. e., price and perceived level of advertising support for a product) would be more pronounced for cognitively complex than for cognitively simple subjects. The only relationship revealed was a weak relationship between price and complex products (black and white tv and a soft drink). No relationship was found for price and simple products (toothpaste and a headache remedy), or for perceived level of advertising support with either complex or simple products.

In Conover's (1981) study, he found no support for a hypothesized relationship between product familiarity and cognitive complexity based on the Bieri, et al., (1966) tied ratings procedure, although a factor analysis of the ratings did reveal more dimensional knowledge for familiar subjects. He concludes that more investigation of the familiarity/cognitive complexity relationship is needed.

On the other hand, two studies reported by Tan and Dolich (1980 and 1981) provide support for the generality of cognitive structure over the domain specific hypothesis. These authors measured cognitive complexity across three product classes (i. e., automobiles, rental apartments, and toilet soaps) and found that individuals were consistent in levels of complexity used to evaluate products across classes. Also, using three measures (i. e., awareness, knowledge, and use) to assess familiarity, the authors employed multiple regression analysis with cognitive complexity as the dependent variable and found no significant relationship.

They conclude that cognitive complexity appears to be more a "...function of unique cognitive developments and/or styles than familiarity with these consumer oriented stimuli." Further, they state, "...the cognitively simple subjects seemed to be as capable as the cognitively complex subjects in evaluating stimulus objects that are inherently simple." (Tan and Dolich, 1981).

Scott's approach. Scott (1962) developed this "sorting task" approach to cognitive complexity to overcome the cumbersome administration and scoring procedures inherent in the RCRT. The approach

requires the subject to generate a list of important objects for the construct domain of interest (in Scott's case nations important in world affairs). The subject is then instructed to arrange the objects in as many groups as he/she wishes, placing all objects that have something in common in a group. These groups are then given labels to distinguish one from another.

The results of this procedure are then evaluated on the basis of a measure of dispersion. As Scott states, "...the cognitive dimensionality, or number of groups-worth of information, can be represented as the dispersion of the objects over the set of distinctions yielded by the category system. The measure of dispersion is  $H$ , borrowed from information theory." (See Scott, 1962 and 1974 for a complete explication of  $H$  and an adjusted measure  $R$  as well as a graphic representation of his concept of dispersion).

Scott (1974) posits two complementary circumstances which account for the dimensionality of a cognitive space, the number of mutually independent attributes represented within the space and the degree to which images represented in the space contain varying combinations of characteristics.

This is clearly a domain specific approach to cognitive complexity.

Marketing applications of Scott's approach.

Wallendorf and Zinkhan (1980), in a conceptual piece, view cognitive complexity as moderating information processing. They discuss both Scott's approach and the MRT as domain specific approaches to cognitive complexity. They do, however, note that it is possible for the structures or dimensions that are developed in one context to be transferred to another context. Still, they clearly view cognitive complexity as a domain specific construct.

Zinkhan and Martin (1981 and 1983) report on two studies designed to test the hypothesis that cognitively complex subjects will prefer cognitively complex ads and cognitively simple subjects will prefer cognitively simple ads. The assumption is that a positive attitude towards the ad will lead to a positive attitude towards the brand (cf., Mitchell and Olson, 1981).

Complexity of the ads is measured by use of the Cloze procedure, in which every sixth word of ad text is replaced by a standard sized blank space. Subjects Cloze scores are based on the number of missing words correctly filled in. It is assumed

that subjects prefer ads which, for them, are of medium difficulty. The individual measure of cognitive complexity is Scott's approach and is administered as a domain specific construct.

Both studies support the hypothesis, however, the authors note the need to test this approach over a wider range of subjects, products, and levels of involvement. They mention in particular the need to assess the model's usefulness under conditions of low involvement (Zinkhan and Martin, 1981).

One attempt has been made to operationalize Scott's three dimensions of cognitive structure (i. e., dimensionality, articulation, and abstraction) as domain specific (Kanwar, Olson, and Sims, 1981). The authors claim support for the construct validity of all three structures as well as the measures they use as indicators based on a multitrait-multimethod approach.

One aspect of the study is troublesome, however, In discussing the abstraction construct, the authors assert that this process "...can also be considered a recoding process in which a new code is assigned to represent several other usually less abstract or more concrete codes." They go on to state that this process will "...reduce the number of



salient concepts in a structure." This implies a reduction in dimensionality as well as articulation and, therefore, implies low complexity as a result of abstraction. How then do we distinguish between subjects who are low in complexity and, therefore, abstract in their cognitions and those who are abstract in their cognitions and, therefore, high in complexity?

Tuckman's interpersonal topical inventory.

Tuckman (1966) was interested in the concept of integrative complexity and its relationship to creativity. Previously, the measure used for classification of individuals based on integrative complexity had been the Sentence Completion Test (SC).

The SC is a projective test that has been well validated. It had several drawbacks, however. Since it is projective, it is difficult to score reliably and requires trained scorers. Further, it requires more time to score than would a valid objective test. Finally, it may understate the complexity of subjects with limited verbal abilities who, therefore, respond incompletely to open-end measures. The author concludes that the ITI is a correspondent instrument to the SC and may be useful in large scale surveys of

individuals.

Marketing application of ITI. Kasulis and Zaltman (1977) report on the only application of the ITI in a marketing context. They state, "Implicit in the notion of cognitive styles is that, given objectively equivalent stimulus conditions, two people may manifest different response patterns depending on the way they function cognitively." This measure is a general measure of cognitive complexity, rather than a domain specific measure (i. e., MRT and Scott's approach).

The authors classified 540 primary and secondary teachers as either cognitively complex or cognitively simple based on a reduced form of the ITI. Persuasive messages were constructed for two products (a teacher development course and a team teaching program). The messages were delivered via direct mail to the school mailboxes of the teachers. Four measures of reception were obtained (familiarity, read, remember, and knowledge).

The basic hypothesis was that "...the greater the degree of message compatibility with cognitive style, the greater the degree of message reception." In other words, cognitively complex individuals would better receive more complex messages and cognitively

simple individuals would better receive more simple messages. For the former product, read, remember, and knowledge were statistically significant factors, familiarity was not. For the latter product only read and knowledge were significant factors. The basic hypothesis was supported for both products.

Summary of the cognitive personality theory approaches. The focus of these approaches in the marketing literature has been on cognitive complexity. The MRT and Scott's approaches define cognitive complexity as domain specific, while Tuckman's ITI defines cognitive complexity as a general personality dimension.

For marketing purposes, a general construct is preferable to a domain specific construct. If for example, a marketer has several brands in several product categories, a measure which provides relevant information for several product domains is both more economical and less logistically complex to utilize. Conceptions of cognitive style which focus on the structure of cognitive operations in general (e. g., ITI) are also likely to be more parsimonious explanations than those which focus on the substance of cognitive structures (e. g., MRT and Scott's approach).

In general, the hypothesized relationship between cognitive complexity and familiarity is not supported by the studies reviewed above (e. g., Tan and Dolich, 1980 and 1981; Kasulis and Zaltman, 1977). This could be interpreted as support for the general approach to cognitive complexity, that is those who are generally cognitively complex are so regardless of familiarity and those who are generally cognitively simple are so regardless of familiarity.

Finally, in the present context, it should be noted that much of the above research has investigated products which would clearly be considered high involvement and, therefore, these findings may not be relevant for low involvement. In fact, Burnkrant (1978) found no relationships significant for the simple products of toothpaste and a headache remedy, both of which could be considered low involvement. Similarly, Tan and Dolich (1980 and 1981) found no differences between cognitively complex and cognitively simple subjects for toilet soap. The relationship between cognitive complexity and low involvement products/situations, therefore, is anything but clear at this point. It may be that cognitive structures for low involvement products/situations are uniformly simple, regardless

of the subject's complexity.

Perhaps a more useful approach for low involvement would be to focus on the general cognitive structures which predispose an individual to certain types/forms of information, rather than the manner in which that information is organized once it is obtained. This is the focus of the psychoanalytic ego-psychology approach.

#### The Psychoanalytic Ego-Psychology Approach

This approach was developed by Klein and his colleagues (e. g. Gardner, Holzman, Klein, Linton and Spence, 1959; and Klein, 1970). Klein summarizes their orientation to cognitive style, "To recapitulate my thesis: Ego control takes the form in perception through what I call 'perceptual attitudes', special ways each person has of coming to grips with reality...it became clear to us that a variety of cognitive attitudes contributes to consistency in a person's behavior, and we have taken note of a structural arrangement of cognitive attitudes by calling it cognitive style."

It is important to note that this view of the individual derives from a distinctly different set of



implicit assumptions (Olson, 1981) than have typically been employed in consumer behavior research into involvement which, most often, is based on a social- psychological view of man (i. e., Fishbein and Ajzen, 1975). Klein (1970) makes the point effectively, "A generalization about personality is always vertical in contrast to the horizontal, cross-person, and nonsystemic generalizations so common to social- psychological thinking. The horizontal approach levels people and considers only the uniform or 'general' effects of a situation. Its focus is on what is seen - the content of a percept - rather than on how it is seen, the personal organization that forms it. It ignores the 'vectors' of personality organization that direct response and reduce the authority of the stimulus field."

Klein's (1970) thesis is that drives are moderated by what are termed cognitive controls. These cognitive controls are organized into superordinate structures which result in what is termed a cognitive style. Goldstein and Blackman (1978) identify a number of cognitive controls which various researchers have investigated. Most of these controls have not been applied to marketing problems. Several would appear to merit investigation,

including Klein's (1970) leveling versus sharpening and Witken and Goodenough's (1981) field dependence-independence.

Leveling versus sharpening suggests that some individuals minimize or level differences between stimuli, while others tend to enhance or sharpen these same differences. It is interesting to note that Klein (1970) provides descriptions of levelers and sharpeners that are quite similar to Jung's (1923) concepts of introverts and extraverts. However, it is only one of several controls which Klein views as interacting to form the individual's cognitive style.

Field dependence-independence is described by Witken and Goodenough (1981) as a general measure of cognitive style. Unlike Klein they eschew the concept of a number of cognitive controls interactively constituting the individual's cognitive style. Rather, they argue that perception is moderated by the individual's relative field dependence-independence.

Field dependent individuals, in their view, are more influenced by the environment in their perceptions and are considered to be more socially sensitive. Field independent individuals, on the

other hand, tend to be more analytic in nature and more capable of objective perception relatively free from environmental influences. These findings are based on a number of experiments employing specially designed equipment which allow the investigator to vary cues from the body while holding environmental or field cues stable and vice versa. By manipulating the source (i. e., body or field) of cues, it is possible to determine the relative influence of each on the individual's perceptions.

What is common to all these approaches and distinct from the MRT and Scott's approach, is an assumption that what will be perceived from the field of available stimuli will vary from one individual to another. As Witken and Goodenough (1981) state, "Since the influence of cognitive controls is very much a matter of highlighting certain environmental features and reducing the effectiveness of others, it is precisely in the regulation of attention that the influence of cognitive controls may be most apparent."

While these orientations are provocative, a problem in their implementation in marketing is the lack of simple measurement instruments. For example, a specially constructed tilting room is required in

some field dependent-independent experiments.

Consequently, little research in marketing has been conducted from this theoretical perspective. Two cognitive controls have been employed in marketing studies, however, dogmatism (e. g., Jacoby, 1971) and tolerance for ambiguity (e. g., Malhotra, Pinson, and Jain, 1980).

Dogmatism. Three studies in marketing have investigated the relationship between dogmatism and innovation. Jacoby (1971) attempted to predict innovation in purchase behavior as a function of dogmatism. He predicted that high dogmatics would be less likely to try new products than would be low dogmatics. His hypothesis was confirmed, but only 10 percent of variance was accounted for.

The other two studies are replications with extensions of the original Jacoby study. First, Coney (1972) replicated Jacoby's methodology with a minor change (i. e., all male sample) and accounted for 22 percent of the variance, strengthening Jacoby's findings. In the second replication (Coney and Harmon, 1979), a more substantial change in methodology was introduced. In Jacoby's instructions subjects were told to assume products they did not normally use were to be judged as if they were to be

purchased for another. Coney and Harmon explicitly instructed subjects to evaluate products either for themselves or as gifts for another. Randomly assigning subjects to one of these two conditions, they demonstrated that the inverse relationship between dogmatism and innovation was significant only when subjects considered product purchases for themselves.

Dogmatism was measured by the Rokeach Dogmatism Scale in all three studies.

Tolerance for ambiguity. Other than the Kasulis and Zaltman (1977) study only one other study has employed cognitive controls as a theoretical basis in the marketing literature (Malhotra, Pinson, and Jain, 1980). They specifically state, "Cognitive controls describe the preferred information processing tendencies shown by individuals in a variety of situations in their search for a state of balance." The authors selected tolerance for ambiguity as a cognitive control relevant to their hypotheses. They investigate the impact of tolerance for ambiguity as a cognitive style on simplification strategies used by consumers to avoid cognitive strain.

In two studies using housewives as subjects



(n=176 in study 1 and n=149 in study 2) and toothpaste (study 1) and floor cleaner (study 2) as products, the authors investigated the effects of tolerance for ambiguity on evoked set sizes and size of importance weights assigned across salient attributes. It was found that intolerants tended to have significantly smaller evoked set sizes and to assign significantly higher importance weights across salient attributes than did tolerants.

Tolerance for ambiguity was measured on Budner's (1962) Scale of Tolerance for Ambiguity. The authors suggest the concept should be investigated under other conditions as well, including involvement.

Summary of cognitive style. Two theoretical orientations have guided marketing research relating to cognitive style. The first group of studies reviewed above employ a cognitive personality theory approach to and operationalize this theory through one of several interpretations of cognitive complexity (e. g., Bieri, et al., 1966; Scott, 1962; and Tuckman, 1966). With the exception of Tuckman's approach, cognitive complexity is hypothesized to be domain specific.

These domain specific approaches generally view

cognitive complexity as being indicated by three structural properties of cognitions relevant to a given object (i. e., differentiation, articulation, and integration). Although it is true that these properties do relate to the structure of cognitions, they do not represent the structure of perception. Rather, they are indicative of the complexity of one's representation in memory of the perception and not the act of perception itself.

In the investigation of low involvement learning, it is the act in which we are interested and not the outcome of the act. The outcome, as represented here by cognitive complexity, is roughly analogous to a post hoc interpretation of the process.

The approach taken by the ego-psychoanalytic psychologists, on the other hand, is less concerned with the outcomes of processing and focuses instead on the different processing styles that give rise to differences in cognitive complexity. This is also true for Tuckman's (1966) approach. To put it another way, the cognitive personality approach is a state oriented approach, while the ego-psychoanalytic approach is a process oriented approach.

As noted above, the major problem for marketers

in employing the ego-psychoanalytic approach has been the complexity of measures. Further, in Klein's (1970) conceptualization, individual cognitive controls (e. g., dogmatism) are not equivalent to cognitive style. Rather, it is the interaction of a number of such controls which comprise the individual's cognitive style. This has further complicated the measurement problem. Nonetheless, because of its processual orientation, the ego-psychoanalytic approach is likely to be more useful in investigating low involvement information processing than would be cognitive personality theory.

What seems to be needed is an approach which combines the relative ease of administration of the cognitive complexity measures with the preferred processual theory orientation of the ego-psychoanalytic approach. This combination appears to be embodied in the Myers-Briggs Type Indicator (MBTI) (Myers, 1962). The MBTI is an objectively scored personality type indicator based on Jung's (1923) theory of psychological types, an ego-psychoanalytical approach to perception and judgement in the individual (see appendix C).

### A Jungian Approach

Jung's theories have not received a great deal of attention in the consumer behavior literature. Zaltman and Wallendorf (1983) suggest two reasons for this, "First, Jung's theory was not widely known or respected until quite recently...Secondly, Jung's philosophy of the nature of human beings is less deterministic than Freud's." This latter point implies that hypotheses derived from Jungian theory would be, a priori, more complex and, therefore, could be more difficult to support than those derived from Freudian theory.

### Jung's Theory of Psychological Types

Jung (1923) posited a number of interlocking variables in his conceptualization of types. His distinction between the two basic "attitudes" of orientation in cognition (i. e., extraversion versus introversion) is well known. Extraversion refers to an orientation towards the external, objective world of experience, while introversion refers to an orientation towards the internal, subjective world of

thought. Less well known are Jung's four functional modes.

These four modes are conceptualized as two pairs of alternatives. The first pair, sensing versus intuition, are ways of perceiving. The sensing function focuses on the objective perception of objects and their attributes (facts). The intuitive function focuses on the implications inherent in these objects and events (possibilities). The second pair, thinking and feeling, are ways in which the individual organizes and judges experiences. The thinking function focuses on objective, analytical, and rational features, while the feeling function is manifest in an appreciation of the gestalt or holistic aspects of the experience.

Jung argued that through a combination of innate predisposition and acquired experience, the individual develops a preference for, and is most comfortable with, one of each of these pairs of "attitudes" and functions. That is, individuals characteristically are oriented towards the external world (extraversion) or towards the inner world (introversion) in "attitude"; prefer to perceive things as they are (sensing) or for what they might become (intuition); and tend to make judgements on



the basis of impersonal analysis (thinking) or personal warmth (feeling). He also viewed the individual as preferring one or the other of the functions in dealing with experiences (i. e., perceiving or judging). This preferred function is referred to as the individual's dominant function, while the other is referred to as the individual's auxiliary function. Jung stressed that the individual is capable of and does use all of the functions and both of the "attitudes", but is most comfortable when employing those which he/she prefers.

Combining the various functional modes and "attitudes" yields a 4 x 4 matrix representing sixteen possible personality types. Figures 16a and 16b provides an example of the type table and brief summaries of each type along with suggestions for interpretation of the table. This type table was developed originally by Myers (1962) as a convenient means of summarizing Jung's basic ideas about psychological types.

#### The Myers-Briggs Type Indicator

Myers (Myers, 1962 and Myers and Myers, 1980)

FOUR PREFERENCES ARE SCORED TO  
ARRIVE AT A PERSON'S TYPE

DOES THE PERSON'S INTEREST FLOW MAINLY TO

E	The Outer World of Actions, Objects, and Persons?	The Inner World of Concepts and Ideas?	I
---	---	--	---

EXTRAVERSION

INTROVERSION

DOES THE PERSON PREFER TO PERCEIVE

S	The Immediate, Real, Practical Facts of Experience and Life?	The Possibilities, Relationships and Meanings of Experi- ences?	N
---	--	--	---

SENSING

INTUITION

DOES THE PERSON PREFER TO MAKE  
JUDGEMENTS OR DECISIONS?

T	Objectively, Imper- sonally, Considering Causes of Events & Where Decisions May Lead?	Subjectively, Per- sonally, Weighing Values of Choices & How They Matter To Others	F
---	---	--	---

THINKING

FEELING

DOES THE PERSON PREFER TO LIVE MOSTLY

J	In a Decisive, Planned and Orderly Way, Aiming To Regulate & Control Events?	In a Spontaneous, Flexible Way, Aiming To Understand Life and Adapt To It?	P
---	--	---	---

JUDGEMENT

PERCEPTION

Figure 16a. Understanding the MBTI Type Table.

The Location Of The 16  
Preference Types On The  
Type Table

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

Extraversion-  
Introversion

I
E

Sensing-  
Intuition

S	N
---	---

Thinking-  
Feeling

T	F	T
---	---	---

Judgement-  
Perception

J
P
J

Figure 16b. Understanding the MBTI Type Table  
(cont.).

was originally interested in helping people to better understand one another. She was convinced that most, if not all, of people's problems with one another could be traced to a failure to communicate effectively. In her search for an explanation she developed various ideas which she began to test and systematize. At this point, she discovered a number of similarities between her own ideas and Jung's theory of psychological types. If communication was viewed as depending upon a series of perceptions and judgements of stimuli, Jung's theory of psychological types could provide a comprehensive and well developed framework for guiding research. Myers, therefore, began to construct an objective instrument to measure Jung's types.

These efforts, over a 20 year period, led to the initial publication of the Myers-Briggs Type Indicator (MBTI), for research use only, by the Educational Testing Service in 1962 (McCaulley, 1981). Based on the evidence accumulated in support of the instrument's reliability and validity, the MBTI was published and made available for professional applications by the Consulting Psychologists Press in 1975 (McCaulley, 1981).

Tables 1, 2, and 3 present, respectively,

Description of Sample	Sex	N	Measure	EI	SN	TF	JP
JUNIOR HIGH SCHOOL							
7th grade underachievers(a)	M	44	Splt-hf	.60	.60	.57	.62
(average I.Q.)	F	32	Splt-hf	.60	.59	.19	.81
7th grade overachievers(a)	M	100	Splt-hf	.82	.75	.59	.84
(I.Q. bright normal)	F	100	Splt-hf	.85	.73	.68	.85
8th grade underachievers(b)	M	34	Splt-hf	.80	.75	.44	.71
(I.Q. over 130)							
7th - 9th gifted(b)	M	34	Splt-hf	.85	.84	.81	.82
	F	26	Splt-hf	.81	.76	.84	.75
HIGH SCHOOL							
12th grade: General course(b)	M	100	Splt-hf	.77	.70	.60	.79
12th grade: College prep.(b)	M	100	Splt-hf	.79	.84	.76	.87
	F	100	Splt-hf	.82	.80	.77	.88
High school students(c)	M	395	Alpha	.78	.77	.64	.78
	F	400	Alpha	.83	.74	.70	.81
Gifted seniors(b)	F	37	Splt-hf	.87	.85	.84	.94
National Merit Finalists(b)	M	100	Splt-hf	.85	.89	.82	.89
COLLEGE							
Amherst(a)	M	126	Splt-hf	.82	.85	.80	.87
Brown(b)	M	100	Splt-hf	.81	.87	.86	.80
Emory(d)	M	99	Splt-hf	.81	.85	.78	.82
	F	100	Splt-hf	.81	.85	.69	.82
Long Island University(c)	M	300	Alpha	.76	.75	.74	.84
	F	184	Alpha	.78	.80	.71	.81
Pembroke(b)	F	100	Splt-hf	.82	.87	.83	.84
Wesleyan(a)	M	56	Splt-hf	.88	.90	.77	.85
Pre-service teachers(e)	-	117	Splt-hf	.71	.81	.68	.80
TEACHERS							
Inservice teachers(e)	-	113	Splt-hf	.63	.82	.67	.83
MEDICAL SCHOOL							
New Mexico(a)	-	91	Splt-hf	.86	.88	.80	.88

- (a)Data supplied to Isabel Briggs Myers and made available by her.  
 (b)Myer, I. B. Manual: The Myers-Briggs Type Indicator, 1962.  
 (c)Stricker and Ross, 1963.  
 (d)Webb, 1964.  
 (e)Hoffman, 1974.

Table 1. Internal Consistency Reliability Estimates for MBTI.



## CONTINUOUS SCORES

Sample	N	Interval	EI	SN	TF	JP
7th grade students(a)	77	12 months	.73	.69	.60	.69
Amherst - class of '63 (a)	126	14-17 months	.75	.69	.60	.74
Wesleyan - class of '63(a)	56	8 months	.82	.83	.78	.70
Univ. of New Mexico Medical Classes '70 - 73 (b)	91	9-21 months	.7	.7	.6	.64
Howard Univ. Undergrads(c)						
Males	146	2 months	.80	.69	.73	.70
Females	287	2 months	.83	.78	.82	.82

## TYPE CATEGORIES

Sample	N	Test- Retest Interval	% of Agreement in MBTI Category				Percent of Categories Remanining the same				
			EI	SN	TF	JP	All	3	2	1	0
7th grade students(a)	77	12 mos	75	74	73	79	39				
Amherst - class of '63	126	14-17 mos	76	85	75	76	37	44	16	4	0
Wesleyan - class of '63 (a)	56	8 mos	84	88	79	75	47	39	14	2	0
Univ. of New Mexico Medical(b) classes '70 - 73	91	9-21 mos	80	81	77	72	42	33	20	4	1
Auburn Univ.(d)	329	2 yrs	74	70	73	66	31	39	14	2	0
Howard Univ.(c)	433	2 mos	Mean agreement 85%				53	35	10	2	0
Elementary Teachers(a)	94	6 yrs	83	89	90	90	61				

(a) Isabel Briggs Myers (b) Gerald Otis (c) Levy et al., 1972  
(d) Stalcup, 1967 (e) Wright, 1966

Table 2. Test-Retest Reliabilities for MBTI and Type Categories.

SAMPLE	N	EI:SN	EI:JF	EI:JP	SN:TF	SN:JP	TF:JP
Myers Longitudinal Medical Study Isabel Briggs Myers	5355	.10	-.13	.08	-.05	.21	.07
University of Florida Applicants M. H. McCaulley	342	-.03	-.06	.10	.19	.40	.34
University of Florida Students M. H. McCaulley	66	.04	-.09	.06	.24	.46	.26
University of New Mexico Applicants G. D. Otis	112	.05	.03	.12	.23	.32	.16
University of New Mexico Students G. D. Otis	149	.07	.13	.12	.25	.42	.34
Medical College of Ohio Students H. Haley & R. Paiva	76	-.15	-.17	-.08	.41	.41	.26
Ohio State University Students '67-69 J. Camiscioni	484	.02	-.12	.06	.22	.45	.17
Ohio State University Students '70-72	660	-.04	-.04	-.00	.15	.42	.14

Table 3. Intercorrelations of Continuous Scores for MBTI Preferences in Medical School Samples.

partial summaries of the evidence for internal consistency, test-retest reliability, and intercorrelations of continuous scores of the various scales of the MBTI. The validity of the MBTI in the present context will be addressed below.

The MBTI is composed of four scales, designed to measure an individual's preferences for extraversion- introversion (EI); sensing-intuition (SN); thinking- feeling (TF); and judgment-perception (JP). For each scale the individual responds to a series of forced choice questions. The questions are intended to indicate preference and, therefore, forced choice is assumed to be appropriate. The questions on each scale are designed to reveal the direction of the individual's preference on that scale.

Conventional scoring assumes a midpoint of 100 for each preference scale and allows for continuous scores on each preference scale to be calculated. This gives a relative indication of the intensity of an individual's preference on a given scale. The scales are assumed to be independent of one another and there is evidence to support this assumption (see table 2).

There has been a substantial body of research

generated on the MBTI and it has been employed in numerous contexts including occupational choice and success, marriage counseling, and education. It has been central to a number of theses and dissertations. In fact, a bibliography of well over 600 citations is available on the MBTI from the Center For Psychological Type. A substantial portion of this material is not directly related to the present study and will not be addressed here. The literature which does have a bearing here will, however, be reviewed.

#### Construct Validity of the MBTI

McCaulley summarizes a number of studies reporting on the construct validity of the MBTI (McCaulley, 1981). In general, results are significant and in the expected direction for correlations between MBTI scales and the Strong Vocational Interest Blank (SVIB); the Allport-Vernon-Lindsey Study of Values (AVL); the Edwards Personal Preference Schedule (EPPS); the Personality Research Instrument (PRI); the Omnibus Personality Inventory (OPI); the Opinion, Attitude, and Interest Survey (OAIS); and the Rokeach Dogmatism Scale, as well as several other scales.

Carlson and Levy (1973) report on a series of studies relating the MBTI to memory, social perception, and social action. The experiments focused on the interactions between personality variables, measured on the MBTI, and situational variables. They conclude, "Four exploratory studies provide unambiguous support for (MBTI) on several substantive problems in both laboratory studies and field settings." In addition, they argue "...complex, enduring organizations - which go beyond familiar alternatives of 'state' or 'trait' conceptions - must be considered in posing questions about relationships of personality and social behavior." They strongly recommend the MBTI as a means to this end.

Child (1965) reports on a study which investigated the relationship between various measures of cognitive style including the MBTI (SN and JP scales), field independence, and tolerance for ambiguity with affective judgement. All three were positively correlated with affective judgement, suggesting the possibility that they are all tapping a similar underlying process. Child concludes, "The suggestion of a connection between goodness of affective judgement and tendency toward intuition and



toward perception as these are defined by the authors of the test seems quite reasonable."

Three studies reported in another article found significant differences in the memorial and perceptual processes of different MBTI types (Carlson, 1980). The first study compared introverted-thinking types and extraverted-feeling types on the qualities of their affective memories. It was found that thinking and feeling types differed significantly in their emphasis on cognitive clarity versus vividness of feeling respectively. Subject's responses to a request for descriptions of their most vivid experiences of seven affectively laden situations (e. g., joy, shame, fear) served as protocols for the analysis.

The second study, compared responses on the RCRT for MBTI sensing and intuitive types. RCRT protocols were classified as inferential (i. e., going beyond observable facts) or concrete (i. e., based on observable facts). It was found that intuitive types were significantly more likely to elicit inferential protocols and sensing types to elicit concrete protocols. This study demonstrates that the MBTI is focused on the structure of perception in the sense of the ego-psychoanalytic

approach discussed above. Also, it provides additional support for the usefulness and independence of the individual MBTI scales for hypothesis generation and testing. This allows a reduction in the number of cells required and may be important when one is faced with limited sample sizes.

The third study required subjects to describe themselves to an unknown other (i. e., a foreign pen-pal). It was predicted that intuitive's protocols would display significantly more instances of imaginative participation, than concrete self-description. The opposite pattern was predicted for sensing types. Both hypotheses were supported.

Carlson concludes, "Type differences in memorial and perceptual processes, previously identified in laboratory settings, also operate in the personal world, where individuals remember, construe, and imagine their significant moments and relationships." These studies are also viewed by Carlson as offering some connections between nomothetic and idiosyncratic approaches from both conceptual and methodological perspectives.

In summary, the construct validity of the MBTI is quite clearly supported by the literature reviewed

here. These studies also support the contention that the MBTI is an effective instrument for assessment of the processes of interest in the ego-psychoanalytic approach. Finally, the independence of the individual scales of the MBTI from one another is indicated.

The above studies are drawn from the literatures of social psychology, personality, and education. A relevant question is whether these findings can be expected to obtain in business, marketing, and consumer behavior settings. The next section presents a review of literature relevant to the MBTI in these areas.

#### MBTI in Business Settings

The MBTI has been employed in at least three contexts in the business literature. It has been utilized in the area of problem solving and decision making (e. g., Mason and Mitroff, 1973); in personality and purchase behavior (e. g., Lessig and Tollefson, 1971); and in the area of individual preferences for media usage (e. g., Anast, 1966).

Problem solving and decision making styles of 104 Harvard MBAs were studied by McKenney and Keen

(1974). In this experiment, subjects were required to select for solving five problems from a pool of fifteen problems. The hypothesis was that systematic individuals (thinking types on the MBTI) would prefer analytic, program type problems, while intuitive (feeling types on the MBTI) would prefer open-ended, opinion type problems. The hypothesis was confirmed and the authors note, "There seems little doubt, in the extreme cases at least, the individual maps himself onto the problem, rather than matching his behavior to the constraints of the particular problem." These findings are consistent with the conceptual thinking of Hellriegel and Slocum (1975) and Kilmann and Herden (1976).

In a similar study which sampled 124 upper management personnel and CEO's from over fifty organizations, Henderson and Nutt (1980) report compatible results. They found that sensing types preferred factual data, while intuitive types preferred subjective information. They also found that sensing-thinking types were particularly risk averse, while sensing-feeling types were more tolerant of risk. This is consistent with the expectation that thinking types will focus on facts and feeling types on possibilities.



Mitroff and Mason (1981) report on a program of research that has examined dialectic processes. One outcome of this program is a typology of typologies of scientific inquiry (see figure 17). The typology views the scientific community as composed of four groups, analytic scientists (ST), conceptual theorists (NT), particular humanists (SF), and global humanists (NF). The model integrates a number of models which have been proposed to account for observed differences in perceptual and judgemental styles.

They argue in favor of Jung's (1923) theory of psychological types as accommodating the other models as well as offering a sound theoretical base. This theory is particularly appealing to the authors because it is nonevaluative in philosophy (i. e., Jung views the various functional modes as different but equally useful). The MBTI is also viewed as a useful tool for understanding the value of the various problem solving styles it describes. They argue that such understanding could facilitate cooperative efforts leading to more integrative and imaginative research strategies. This is particularly so in terms of the nexus of nomothetic and idiographic approaches to the study of consumer



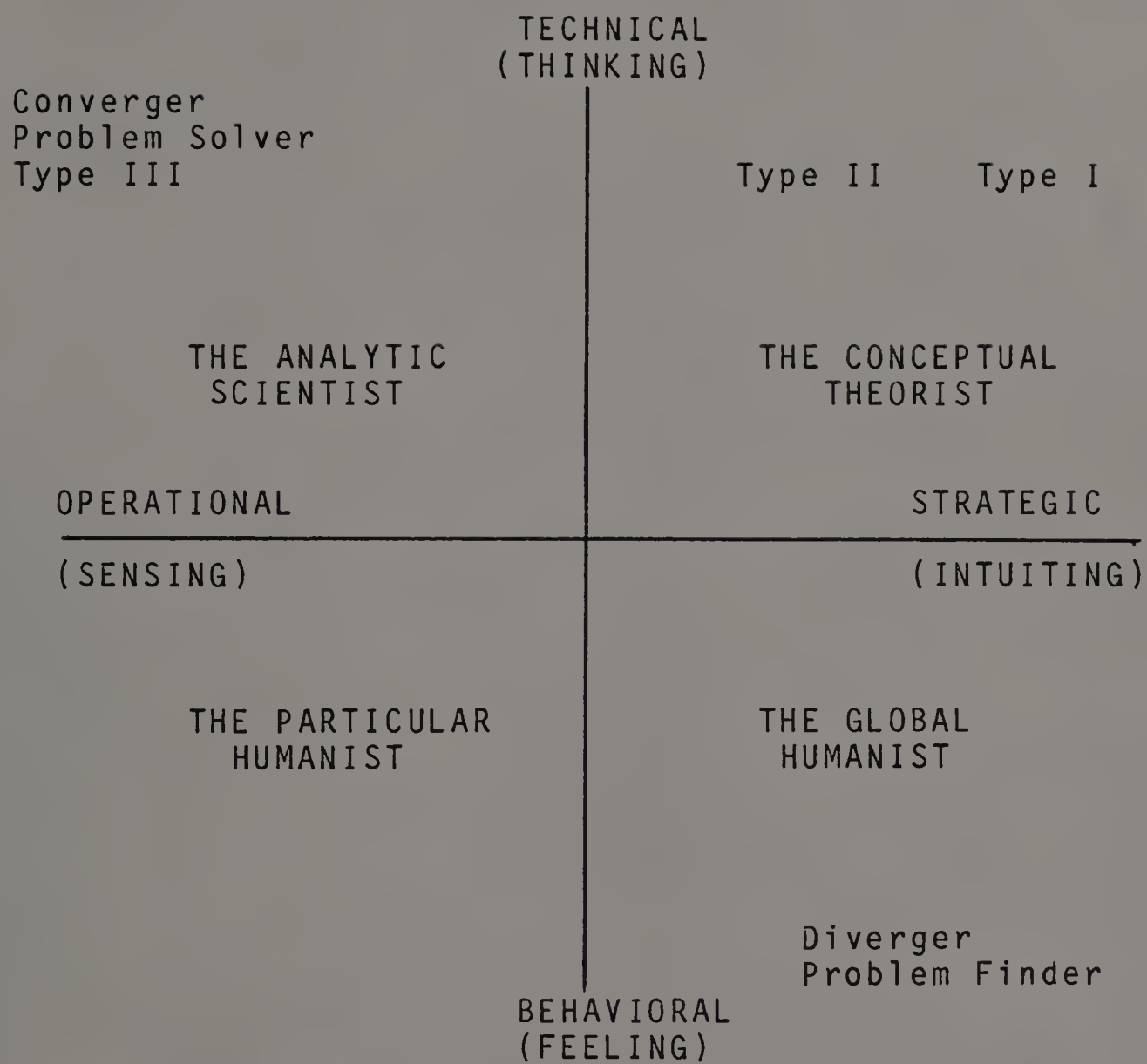


Figure 17. A Typology of Typologies.

behavior. McGuire (1976) and Olson (1981) call for similar integrative efforts.

The one study which has empirically tested the MBTI in a consumer behavior context (Lessig and Tollefson, 1971) argued that there is no a priori reason to assume that individual purchase behaviors should be related to a number of personality characteristics. Rather they suggest it would be more appropriate to sample a number of behaviors and relate the pattern of behaviors to a personality pattern (see Epstein, 1979, for an eloquent and compelling defense of this position). Sampling 212 household panel members, the authors related several behaviors relevant to coffee purchase with several measures of personality including the MBTI. Alternative representations of the subjects' scores on the TF scale of the MBTI proved to be significant canonical correlates in predicting subjects buying behaviors. Since the TF scale represents the judging function, this finding is consistent with predictions from theory.

Finally, in a study of media usage preferences, Anast (1966) hypothesized that sensing types would prefer television and movies, while intuitive types would prefer novels and magazines. He argues, "It

would seem that the intuitive person gravitates towards stimuli requiring mediated responses of an autistic nature; the sensory personality prefers short, direct contacts with the environment, where stimuli remain relatively free from idiosyncratic alteration."

For novels, motion pictures, and television preference, the relationships were as predicted and significant. There were no significant differences in magazine preferences based on personality type. Anast suggest this may be the result of idiosyncratic interpretations of the term magazine (i. e., sensing type individuals interpret the term to refer to pictorial type magazines and intuitive types interpret the term as refering to editorial type magazines). This study provides some support for Zaltman and Wallendorf's (1983) contention that Jung's theory as operationalized by the MBTI provides a useful approach which should be employed in the investigation of advertising's impact on the consumer.

### Summary

In summary, there is a need for research

strategies and theories which combine the strengths of empirical analysis and intuitive reasoning in consumer behavior research. This is particularly true in the case of low involvement processing of advertising. New approaches and new theories need to be brought to bear. The literature reviewed above indicates Jung's theory of psychological types and the MBTI merit further investigation in this context.

## C H A P T E R I V

### METHODOLOGY

#### Introduction

In this chapter an overview of the conceptual and operational bases for the present study are provided. First a discussion of the specific research issues and hypotheses derived from the general review of the literature provided earlier will be presented. The second section of the chapter will present an account of the methodology to be employed in the investigation of the hypotheses.

#### Issues and Research Overview

The primary purpose of this research is to investigate the interaction effect of cognitive style and advertising type on consumers' affective responses to advertising under conditions of low/high personal relevance (involvement). The conceptual framework for this study derives from a synthesis of



the two areas of research reviewed previously. An argument has been presented which views involvement as the crux of a reorientation in the study of consumer response to advertising stimuli.

Now, if we view involvement as a focusing of attention, we find that we are investigating a phenomenon that has been viewed as both cognitive style (e. g., Witken and Goodenough, 1981) and involvement (e. g., Krugman, 1965). This is also consistent with McGuire's (1976) definition of perception as "...the determination of what part of the information to which a person is exposed he or she effectively receives."

Therefore, the research question to be addressed by this study is whether or not the interaction of cognitive style and ad type has an effect on affective responses to advertising. There is ample evidence to demonstrate that what is accepted and retained varies as a function of attention (e. g., Petty and Cacioppo, 1981a). There is very little agreement on what directs attention to begin with. Consequently, there is a need to investigate this phenomenon.

Using McGuire's (1976) model of consumer response as a reference point, what this implies is a

shift from emphasis on the fourth and fifth steps of his model (i. e., agreement and retention) to the second and third steps of the model (i. e., perception and comprehension). Various approaches to cognitive style (e. g., Zaltman and Wallendorf, 1983 and Yeakley, 1982) indicate that affective responses can be enhanced when there is consistency between the individual's cognitive style and the presentation style of a communication. It has also been argued that differences in cognitive style are indicated by differences in perception and comprehension.

### Purpose

As stated above, the purpose of this study is to investigate the interaction of cognitive style and ad type on consumers' affective responses to advertising. Affective is used here to describe "feeling" type responses as defined by Zajonc and Markus (1982). They state that "affective responses, including preference judgements, may be fairly independent of cognition." In the same article they add, "We are stating that there are many circumstances in which the affective reaction precedes the very cognitive appraisal on which the

affective reaction is presumed to be based." This orientation attempts to distinguish statements which express discrimination between objects and statements which express preference for an object.

In discrimination, the argument is that affective responses follow the traditional path of the multiattribute model of attitude formation in which the affective component (i. e., attitude) is a summary of the cognitive responses. In preference, on the other hand, affective reactions are viewed as "feeling" type responses and, as such, are viewed as being precognitive and global in nature. Thus, they do not require the prior formation of cognitions. In the present study, a measurement technique developed by Abelson, et al., (1982) was employed to measure consumer's affective responses to advertising stimuli. This approach allows for an examination of the interaction effects of cognitive style and advertising type on:

- (1) Consumers' affective responses to a concrete versus abstract commercial (ad type) under conditions of low versus high personal relevance (involvement).
- (2) Consumers' attitudinal responses to both the commercials and the brands depicted in those commercials under the same conditions as in (1) above.

### Cognitive Style

The cognitive style construct is operationalized here as a distinction between sensing and intuitive types. A number of authors have discussed the differences in the ways in which sensing types (S's) and intuitive types (N's) perceive and gather information. There would appear to be a preference for concrete (abstract) types of information among S's (N's).

Kilmann and Herden (1976) state, "Sensation is the perceptual function (i. e., data input) that focuses on details, specificity, and a factual (here and now) orientation to reality. Intuition seeks to obtain information via global possibilities, imagination, hunches, and a future holistic orientation." Anast (1966) also argues that, "It would seem that the intuitive person gravitates toward stimuli requiring mediated responses of an autistic nature; the sensory personality prefers short direct contacts with the environment, where stimuli remain relatively free from idiosyncratic alteration." Analogously, concrete statements are taken by consumers at face value, if accepted, whereas abstractions are open to individual consumer's interpretations.



Yeakley (1982) describes the preferred communication styles of the sensing type as practical, common sense, reality based, and results oriented and the intuitive type as more creative, imaginative, meaning centered, and theory oriented.

Zaltman and Wallendorf (1983) say, "The more a promotional campaign appeals to the mode of relating to the world that is most commonly used by the target population, the more effective it will be in communicating information or feelings."

### Advertising Type

Advertising type is operationalized here as a distinction between concrete and abstract ads. This distinction is potentially important here because if cognitive style does affect the consumer's perception and gathering of information then information presented in a style consistent with the consumer's cognitive style should be more favorably received by the consumer.

The distinction between a concrete and an abstract commercial has been made clear by Rossiter and Percy (1978) and has been applied by Debevec, Myers, and Chan (1984) as well. A concrete



commercial is one in which product benefits are stated in terms of "superlative and explicit product claims." An abstract commercial, on the other hand, is one in which the product benefits are stated in terms of "superlative but vague product claims" (underlining added) (Rossiter and Percy, 1978).

In a more recent article, Rossiter and Percy (1980) refer to concrete and abstract claims as explicit and implicit belief claims respectively. This concept is also similar to what Golden and Johnson (1983) refer to as thinking (concrete) and feeling (abstract) types of ads.

### Personal Relevance

Personal relevance is operationalized here as the distinction between low and high relevance of the message for the consumer. This is accomplished in the manner employed by Petty, Cacioppo, and Heesacker (1981). See figures 18a and 18b for the actual text utilized to manipulate relevance.

Commercials for consumer packaged goods are relatively simple communications. If the consumer is motivated to attend, there is little reason to believe that the information contained in a

Thank you for taking the time to participate in this experiment. Your efforts are sincerely appreciated and will be most helpful. A regional manufacturer is testing a new hand soap on college campuses in California. The product will not be marketed in this area of the country, but we have been asked to participate in this test of several commercial campaigns for the product. We would like you to listen to the taped radio commercial you have been provided as you normally would listen to the radio. After listening to the commercial, please respond to the items listed on the questionnaire provided. Thank you.

Figure 18a. Low Relevance Condition.

Thank you for taking the time to participate in this experiment. Your efforts are sincerely appreciated and will be most helpful. You will be receiving, along with all other students, faculty and staff of the college, a sample of a new hand soap in the next week or two. This product will be marketed in this area of the country this fall. At this point, the manufacturer is testing several commercial campaigns for the product. We would like you to listen to the taped radio commercial you have been provided as you normally would listen to the radio. After listening to the commercial, please respond to the items listed on the questionnaire provided. Thank you.

Figure 18b. High Relevance Condition.

commercial cannot be readily processed regardless of its format of presentation. It is argued here, that the format of presentation is only significant under conditions of low involvement, or situations in which the motivation of the consumer to process the communication is low to begin with.

Here a form of presentation which is consistent with the consumer's preferred mode of perception is more likely to elicit a positive affective reaction than one which is inconsistent. This is because it is under these conditions that the consumer's response is more likely to be limited to or dominated by his/her affective reaction to the communication.

Consequently, the following hypotheses are proposed to test this purported interaction effect of cognitive style and ad type on consumer's responses to advertising under conditions of low/high personal relevance.

### Hypotheses

The following hypotheses will be tested by the present study. A rationale for each hypothesis follows the presentation of all of the hypotheses.

Ho 1 - No significant differences in affective

responses to a concrete commercial will be observed between sensing (S) and intuitive (N) types under conditions of low personal relevance (involvement).

Hi 1 - Significant differences will be observed.

Ho 2 - No significant differences in affective responses to a concrete commercial will be observed between S and N types under conditions of high personal relevance (involvement).

Hi 2- Significant differences will be observed.

Ho 3 - No significant differences in affective responses to an abstract commercial will be observed between S and N types under conditions of low personal relevance (involvement).

Hi 3 - Significant differences will be observed.

Ho 4 - No significant differences in affective responses to an abstract commercial will be observed between S and N types under conditions of high personal relevance (involvement).

Hi 4 - Significant differences will be observed.

Ho 5 - No significant differences in attitudinal responses to a concrete commercial will be observed between S and N types under conditions of low personal relevance (involvement).

Hi 5 - Significant differences will be observed.

Ho 6 - No significant differences in attitudinal responses to a concrete commercial will be observed between S and N types under conditions of high personal relevance (involvement).

Hi 6 - Significant differences will be observed.

Ho 7 - No significant differences in attitudinal responses to an abstract commercial will



be observed between S and N types under conditions of low personal relevance (involvement).

Hi 7 - Significant differences will be observed.

Ho 8 - No significant differences in attitudinal responses to an abstract commercial will be observed between S and N types under conditions of high personal relevance (involvement).

Hi 8 - Significant differences will be observed.

Ho 9 - No significant differences in attitudinal responses to a brand presented in a concrete commercial will be observed between S and N types under conditions of low personal relevance (involvement).

Hi 9 - Significant differences will be observed.

Ho10 - No significant differences in attitudinal responses to a brand presented in a concrete commercial will be observed between S and N types under conditions of high personal relevance (involvement).

Hi10 - Significant differences will be observed.

Ho11 - No significant differences in attitudinal responses to a brand presented in an abstract commercial will be observed between S and N types under conditions of low personal relevance (involvement).

Hi11 - Significant differences will be observed.

Ho12 - No significant differences in attitudinal responses to a brand presented in an abstract commercial will be observed between S and N types under conditions of high personal relevance (involvement).

Hi12 - Significant differences will be observed.

Rationale for hypotheses 1 through 4. These

follow from the definitions and discussions of

concrete and abstract commercials and sensing and intuitive types presented above. It is expected that the null hypotheses will be rejected and that concrete (abstract) commercials will elicit more positive affective responses from S's (N's) under conditions of low personal relevance (hypotheses 1 and 3). Under conditions of high personal relevance, the null is not expected to be rejected (hypotheses 2 and 4).

Rationale for hypotheses 5 through 8. These follow from the attitude towards the ad literature reviewed in chapter two. It is suggested by some (e. g., Shimp, 1981 and Moore and Hutchinson, 1983) that attitude towards the ad is an affective type response. It would seem that this response would summarize those affective responses observed in testing hypotheses 1 thru 4 above. Therefore, it would be expected that these responses should be, at least, in the same direction as the affective responses relating to hypotheses 1 thru 4 above.

Rationale for hypotheses 9 through 12. Since brand attitude is typically viewed as a more cognitive response than attitude towards the ad, it is suspected that these responses will not be as strongly affected by cognitive style and ad type as

will the attitude towards the ad responses.

Therefore, no relationship is expected to be observed between the affective responses and the cognitive responses to be obtained.

Rationale for the selection of the MBTI SN scale. As was discussed earlier, the independence of the individual scales of the MBTI has been established in prior research. Therefore, since the interest here focuses on the structure of perception the SN scale is deemed appropriate while the EI, TF, and JP scales are not. The MBTI (SN scale) is provided in appendix C.

## Method

### Study Overview

In the present study, two radio commercials were used to examine the effects of cognitive style and ad style on subjects' affective and attitudinal responses to advertising under conditions of low/high personal relevance (i. e., involvement).

The samples used in this study consisted of undergraduate business students at a major

mid-Atlantic university. Although there have been questions raised about the appropriateness of student samples (e. g., Cunningham, Anderson, and Murphy, 1975), provided that they are used in relevant situations, the problem is not considered to be serious by most (e. g., Lamb and Stern, 1979). That is, situations in which the status of the subject as a student is not expected to affect her/his behavior as a subject. Since the product to be used in the study is relevant for the student as a consumer, student status should not compromise the validity of the study. This does not imply that the results of this study can be generalized to other populations without extreme care, however.

The study will be implemented in two major stages. Stage One will be used to (1) select the product to be include in Stage Two; (2) identify salient product attributes; and (3) pretest the instruments and commercials to be employed in Stage Two. Stage Two will be used to collect data for the test of the interaction effect of cognitive style and ad type on subjects' affective and attitudinal responses to advertising. An outline of the study's procedures is provided in figures 19 and 20.

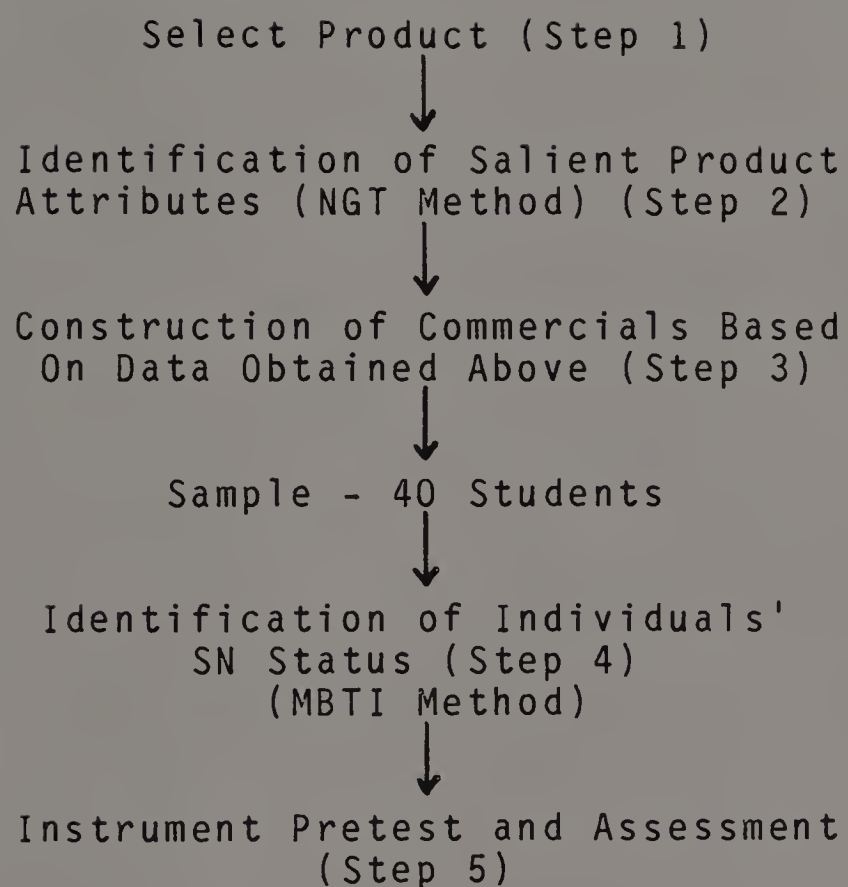


Figure 19. Stage One.



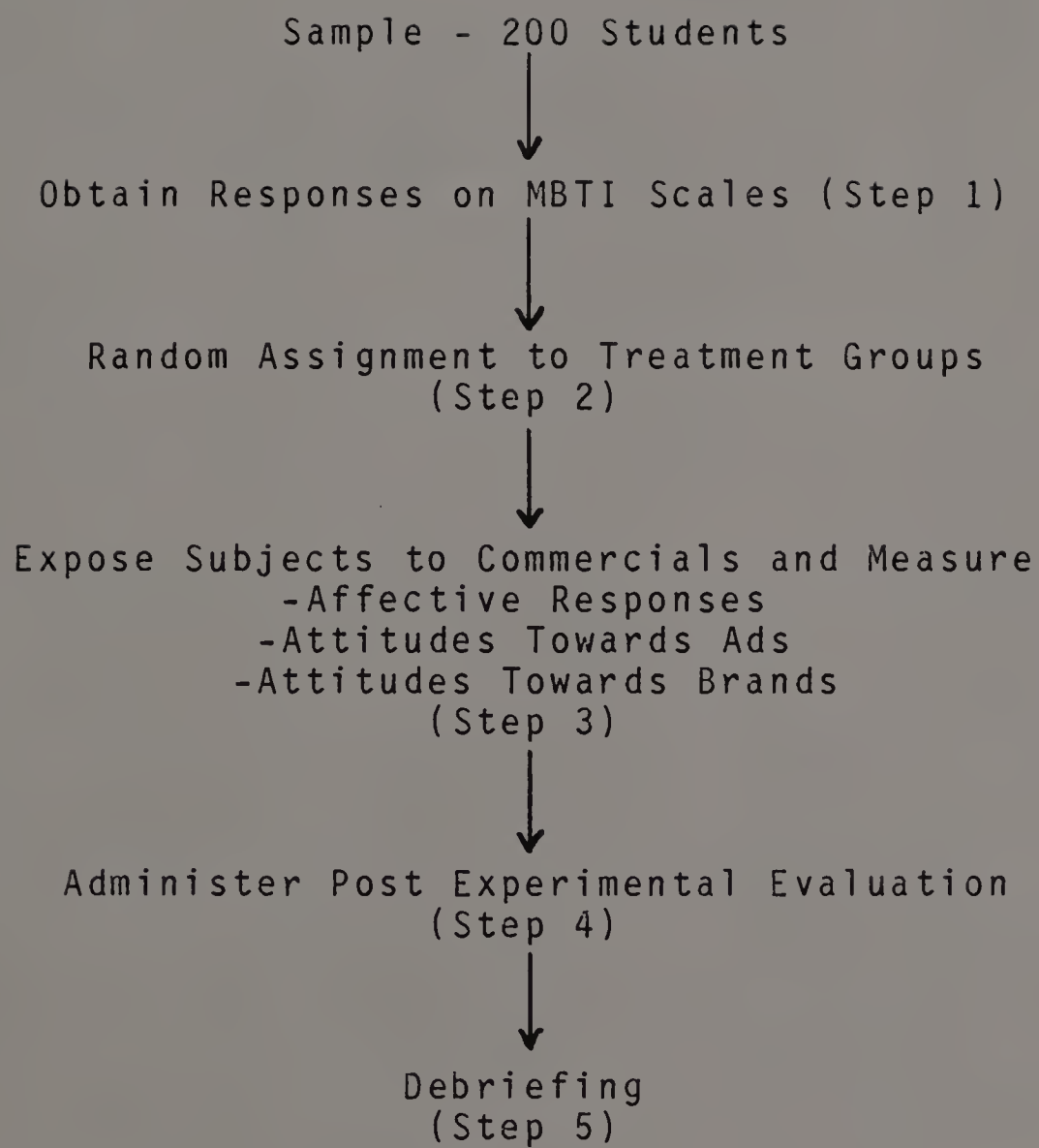


Figure 20. Stage Two.

### Stage One

As indicated by figure 19, Stage One included four steps. The first two steps were necessary to provide the researcher with quality data concerning the selection of (1) a product and (2) product attributes. This data was used to facilitate the preparation of the commercials used in the main study. In the third step, two commercials were professionally developed. Lastly the instruments and commercials used in Stage Two were pretested. To provide a clear understanding of this stage of the research, the presentation will be developed in two sections: (1) Preliminary Product Data and (2) Pretests of Instrument and Ads.

Product selection. In this stage the objective was to identify a product which was relevant for the subject population (i. e., students) as consumers. At the same time, the desire was for a product which was not, in and of itself, involving to the subjects. Therefore, a separate sample of 40 students from the subject population was asked to list those products which they regularly purchased, but for which they spent little if any time in evaluating alternatives. This procedure elicited a number of reasonable products for this study. The instructions and

instrument for subjects in this task are provided in appendices D and E.

The product selected for this study was handsoap. This choice was made for several reasons. First, it was a product which was included in a majority of the subjects' lists. Second, it was a product for which it was felt involvement could be effectively manipulated. Finally, handsoap is a product which virtually all subjects would use and have had considerable experience with.

Preliminary product attribute generation. The objective of this step is essentially one of idea generation. That is, to provide the researcher with the highest quality attribute data.

The issue is whether groups or individuals will perform an idea generation task better. Better is used here to refer to both the quantity and the quality of the ideas generated. To this end a brief review of the idea generation literature is appropriate.

Shaw (1981) suggests that evidence strongly favors the group in terms of problem solving ability, a distinct, but related task. A number of other studies support this stand (e. g., Taylor, Berry, and Block, 1958; Tuckman and Lorge, 1962; and Davis

and Retsle, 1963).

Buncher (1982) and others (e. g., Wells, 1974) have argued in favor of focus groups as appropriate for idea generation tasks. Fern (1982), however, contends that focus groups may tend to constrain both the number and quality of individually generated ideas. In his study, aggregated individual ideas were judged superior in both quantity and quality over both moderated and unmoderated groups of equal numbers of persons. Kanekar and Rosenbaum (1972) also report that nominal groups (i. e., groups formed by pooling individual responses) outperformed "real groups" of equal numbers of individuals.

One approach which seeks to capitalize on the strengths of both positions is the Nominal Group Technique (NGT) (Van de Van, 1974). The NGT is one of the "brainstorming" approaches advocated by Osborne (1957). The NGT is designed to minimize the constraining influences of group participation (e. g., Taylor, et al., 1958 and Collaros and Anderson, 1969) on individual creativity. Delbecq, et al., (1975) cite a number of studies (e. g., Campbell, 1968; Bouchard, 1969; Vroom, Grant, and Cotton, 1969; and Bouchard and Hare, 1970) which support his argument that nominal group techniques enhance and

sharpen individual creativity. These studies support the hypothesis that nominal groups are superior to interacting groups on three measures of idea generation (i. e., uniqueness, total number, and quality).

Thus the literature reviewed here provides support for the use of the NGT as an effective and efficient means for generating the necessary data for this study. In this study, the NGT procedure to be utilized in obtaining products and attributes will follow procedures presented by Delbecq, et al., (1975). The procedure is outlined in table 4. The benefits from each step of the procedure are outlined in table 5. Following this, the exact procedures used in each step of Stage One are presented.

Assessment of salient attributes. Responses from 28 subjects obtained by the NGT method revealed that the four most salient attributes for handsoap for the subject population in question are:

1. Scent or fragrance.
2. Price.
3. Lather.
4. Moisturizers.

The instructions and instrument for the subjects in this task are provided in appendices F and G.

Preparation of the commercials. The commercials were professionally prepared by a local



### Step 1: Preliminary Setup

- a) Arrangement of classrooms into seating clusters of five chairs (eight clusters).
- b) Provision of ten index cards, two sheets of paper and one pencil per seat.

### Step 2: Introduction

- a) Preliminary statement and greeting to subjects including:
  - 1) Cordial welcome;
  - 2) Sense of importance of group's task;
  - 3) Clarification of importance of each member's contribution;
  - 4) Indication of purpose of meeting's output.

### Step 3: Silent Generation of Ideas in Writing

- a) Presentation to group of question in written form;
- b) Verbal presentation of question to each group;
- c) Asking group to work silently and independently;
- d) Reminding them to take as long as necessary to exhaust their ideas.

### Step 4: Round Robin Recording of Ideas

- a) In a round robin manner, the researcher and assistants ask for one idea from each individual. This continues until all ideas are exhausted. Duplicates are scratched during the listing. Respondents are informed they may add any ideas to the list during this step. When all ideas are exhausted, the group is then instructed to move to Step 5.

### Step 5: Serial Discussion for Clarification

- a) Each group is instructed to proceed through the group list of ideas discussing each idea independently.
- b) After the group has discussed each idea they are instructed to move on to Step 6.

### Step 6: Voting on Item Importance

Table 4. NGT Procedures.

- a) Each member is asked to record their top ten ideas independently. Each of these choices is then recorded on 5 x 7 index cards. They are then asked to rank order their ten choices from 1 (most important) to 10 (least important).

Step 7: Conclusion of NGT

- a) All rank ordered cards are then collected by the researcher to be analyzed;
- b) Subjects are thanked for their cooperation and debriefed.

Table 4 (cont.). NGT procedures.

Step 1: Silent Generation of Ideas in Writing

1. Adequate time for thinking and reflection;
2. Social facilitation (that is, the constructive tension created by working hard;
3. Avoidance of interruptions;
4. Avoidance of undue focusing on a particular idea or train of thought;
5. Sufficient time for search and recall;
6. Avoidance of competition, status pressures and conformity pressures.
7. The benefits of remaining problem-centered;
8. Avoidance of choosing between ideas prematurely.

Step 2: Round Robin Recording of Ideas

1. Equal participation in presenting ideas;
2. Increase in problem-mindedness;
3. Depersonalization - the separation of ideas from personalities;
4. Increase in the ability to deal with a larger number of ideas;
5. Tolerance of conflicting ideas;
6. Encouragement of hitchhiking;
7. Provision of a written record and a guide.

Step 3: Serial Discussion for Clarification

1. Avoidance of focusing unduly on any particular idea or subset of ideas;
2. Opportunity for clarification and elimination of misunderstanding;
3. Opportunity to provide the logic behind arguments and disagreements;
4. Recording of differences of opinion without undue argumentation.

Step 4. Vote on Item Importance

1. Having individual members of the group make independent judgements;
2. Expressing these individual judgements mathematically by rank-ordering and/or rating items;
3. Using the mean value of independent judgements as the group's decision.

Table 5. NGT Benefits.

radio station. Two commercials were prepared for the product (see figures 21a and 21b for complete text). One ad for the product was constructed in a concrete format. A second ad was constructed in an abstract format. Both versions of the commercial incorporate the salient attributes identified by the NGT procedure. This provides four conditions (see figure 22).

Instrument pretest. Using a different sample of 40 students from business administration classes at the College of William and Mary, the commercials developed for the full experiment were tested. Data were collected in two separate sessions.

In order to minimize demand artifacts (e. g., Sawyer, 1975) such as hypothesis guessing, subjects' responses to the MBTI (SN scale) were obtained in the first session. The cover story for this session was that these tests, when scored and interpreted, are believed to be useful aids in developing good study habits.

The researcher then instructed subjects to read the instructions for the MBTI scales, while the researcher read them aloud as well. Upon completion of the reading of instructions any questions subjects had concerning completion of the instruments were

## RADIO 1: CONCRETE VERSION: BREAK SOAP

"Announcing the introduction of new Break Soap!  
New Break Soap designed for today's life style  
is the result of extensive consumer research and  
testing.

FACT: Break's clean fresh scent is preferred over  
all leading competitors by 7 out of 8  
consumers tested nationwide.

FACT: A special ingredient developed in our labs,  
texohydrozolan, gives Break Soap 30% more  
lather than the leading competitor.

FACT: Break contains 50% more of the moisturizing  
ingredient recommended most often by leading  
skin specialists than any other soap available  
today.

FACT: Break Soap gives you all this quality at the  
popular price of only 36 cents for a personal  
size bar. An average of 20% less than leading  
competitors.

New Break Soap - Break away from ordinary soap -  
Try new Break Soap today. Your skin will be  
glad you did.

(The format of these commercials was modeled after  
the work of Debevec, Myers, and Chan (1984) and  
Rossiter and Percy (1982). The announcer was the  
same for both commercials. Although the length  
of presentation varied other stylistic elements  
were held as constant as was possible.)

Figure 21a. Concrete Version of Commercial.



RADIO 2: ABSTRACT VERSION: BREAK SOAP

Announcing the introduction of new Break Soap!  
New Break Soap designed for today's life style  
is the soap you've been searching for.

Break has a clean fresh scent you will love.

Break delivers the full rich lather you want.

Break's special moisturizing ingredient leaves  
your skin feeling smooth and soft.

And, Break is priced to please.

New Break Soap - Break away from ordinary soap -  
Try new Break Soap today. Your skin will be  
glad you did.

(The format of these commercials was modeled  
after the work of Debevec, Myers, and Chan  
(1984) and Rossiter and Percy (1982). The  
announcer was the same for both commercials.  
Although the length of presentation varied  
other stylistic elements were held as constant  
as was possible.)

Figure 21b. Abstract Version of Commercial.

	Low Relevance		High Relevance	
	Concrete Comm'l	Abstract Comm'l	Concrete Comm'l	Abstract Comm'l
S	25	25	25	25
N	25	25	25	25
	(1)	(2)	(3)	(4)

Figure 22. Experimental Design.

answered by the researcher. Once these questions were resolved subjects were instructed to, upon completion of the instruments, place their pencils on their desks and sit back.

Subjects were then instructed to begin. When the final subject had indicated that he had completed the instrument, the researcher collected all test instruments from all subjects. The subjects were then thanked by the researcher for their cooperation and informed that their results would be made available in three to four weeks by the researcher. Subjects were then dismissed.

Results were not provided to the students until after the second session was completed, nor was any explanation of the instrument's purpose given until that time.

During the second session, conducted two weeks after the first session, subjects responded to the commercials. Subjects responded to one of four treatments (see figure 22 above).

Upon entering the laboratory for session two, subjects were informed that they were to take part in the testing of a radio commercial for a new brand of soap. The market for this new product was identified as either California (low relevance) or their campus

(high relevance). They were told that their responses to the commercial would be greatly appreciated. Subjects were also given a set of response sheets on which to record their responses to the commercial.

The researcher then instructed the subjects to read the instructions for the experiment. At the completion of reading the instructions, and answering of questions, the subjects listened to the commercials. Subjects completed the items relating to the commercials immediately following listening to the commercials. Upon completion of all response items the subjects response sheets were collected by the researcher. The subjects were then debriefed, thanked for their time and effort, and dismissed.

Each subject listened to the commercial and responded to the questionnaire in a language laboratory cubicle which, along with the use of individual headsets, allowed the simultaneous manipulation of all treatment conditions.

The results of this pretest were examined before the Second Stage of the study was undertaken. The concern here was focused on the understandability of the individual items of the questionnaire, the effectiveness of the cover story, and the extent to which subjects were able to guess the study's actual

hypotheses. A post experimental questionnaire revealed no significant problems with respect to these concerns and, therefore, the study proceeded to stage two.

### Stage Two

Stage Two is the main study of the present research project. Those aspects of the study which have not been addressed above will now be specified.

Sample. The sample consisted of 200 undergraduate students enrolled in business administration classes at the College of William and Mary. Sample size was set at 200 to provide acceptable internal experimental validity for subsequent analysis. As noted earlier, use of a student sample is deemed appropriate in this instance.

Since S and N types are not evenly distributed in the population an initial subject pool of approximately 265 was obtained. From this pool 100 each of S and N type subjects were randomly selected and assigned to the two treatment conditions. This procedure allowed equal cell sizes to be obtained for ease of subsequent analysis.



Procedure. In Stage Two, as in Stage One, data collection took place during two separate sessions. Procedures for step one of Stage Two, obtaining responses on the MBTI scales, were as described above. The procedures for step two of Stage Two were as described above, as well. However, in the following sections, the exact procedures for data collection, post experiment evaluation, and debriefing, not dealt with above, will be explained in detail.

Data collection. The researcher proceeded, as outlined above under Stage One, by passing out the questionnaires, reading the questionnaire instructions, and answering questions. The questionnaire consisted of multiple measures of affective and attitudinal responses to the ads and brands employed. Multiple measures are employed to allow for assessment of reliability using Cronbach's alpha. The complete experimental questionnaire is provided in appendix H.

Post experiment evaluation procedure. Upon completion of the instrument, the researcher administered to each subject a post experimental questionnaire designed to test for the presence of demand artifacts (Sawyer, 1975).

In order to address this problem, the instrument assessed subjects' perceptions of several aspects of the experiment. The complete post-experimental questionnaire is provided in appendix I. The researcher then read a set of instructions aloud and asked the subjects to read along to themselves as well. Subjects were then asked if they had any questions concerning the instrument. Once the questions had been resolved, subjects were instructed to respond to the questionnaires. Upon completion of the questionnaires the researcher collected all questionnaires.

Debriefing. Following collection of the post experimental questionnaires, a debriefing statement was read to inform the subjects of the true nature of the study. Any questions concerning the study and/or the proposed analysis were then answered. Following debriefing, subjects were thanked for their time and dismissed.

### Conclusion

The next chapter presents the analysis of the data which were collected. The hypotheses are discussed as they relate to the results. Finally, these results are discussed in a more general fashion.

## C H A P T E R V

### ANALYSIS

#### Introduction

This chapter details the analysis performed in the present study. The measurement indices employed and the assessment of their reliabilities are briefly presented. This is followed by a presentation of the results of the multivariate analysis of variance (MANOVA) as it relates to the research hypotheses. Finally, the general findings of the study and the analysis are discussed.

#### Measurement

##### Affective Response

After listening to the commercials, subjects' affective responses were assessed utilizing an instrument developed by Allen and Madden (1983). The instrument is based on the work of Abelson, et al., (1982). As Allen and Madden (1983) state:

"The approach is very simple: the subject is asked merely to try to recall what he or she was feeling during exposure to the treatment ad and is given a list of adjectives describing different kinds of feelings. Then in response to the question, "Did This Commercial Make You Feel," they checked a response to each adjective on a six point scale that had the end-labels "Very Much So" and "Not At All"."

As was the case in the Allen and Madden (1983) study, the items in this scale seemed to indicate two subsets were present in subjects' affective responses. One subset consisting of the items good, happy, cheerful, pleased, amused, stimulated, calm, and soothed formed a positive affective response (Cronbach's  $\alpha = .88$ ). A second subset consisting of the items insulted, angry, irritated, impatient, repulsed, and confused formed a negative affective response (Cronbach's  $\alpha = .85$ ).

#### Attitude Towards the Ad

Next, subjects' attitudes toward the ads were assessed. Subjects were requested to indicate their overall reactions to the ads on an eleven item semantic differential scale. An attitude toward the ad index was represented by the mean of these eleven items (Cronbach's  $\alpha = .89$ ).

A second measure of attitude towards the ad was



taken from subjects' responses to the statement "Overall my Attitude Towards The Break Soap Commercial Is." Responses were recorded on a seven point scale that was labeled Favorable and Unfavorable at its ends. For purposes of this study, responses to this question were not analyzed.

#### Attitude Towards the Brand

Subjects then responded to a five item semantic differential scale which assessed their overall attitudes towards the brand (i. e., Break Soap). An attitude towards the brand index was represented by the mean of these five items (Cronbach's alpha = .87).

A second measure of attitude toward the brand was taken from subjects' responses to the statement "Overall My Attitude Towards Break Soap Is." Responses were recorded on a seven point scale that was labeled Favorable and Unfavorable at its ends. These responses were not analyzed in this study.

#### MANOVA

The data were analyzed utilizing the SPSSX MANOVA program. A between subjects model was employed to assess both interaction and main effects

of the treatment conditions on subjects' responses. The model employed was a 2 X 2 X 2 full factorial in which the effects of personal relevance (high versus low personal relevance), cognitive style (sensing versus intuitive types), and commercial type (concrete versus abstract) on subjects' affective and attitudinal responses to the test commercials were assessed.

Since there were multiple nonmetric independent variables and multiple metric dependent variables, MANOVA was the appropriate technique to employ. MANOVA allows for the examination of the effects of multiple independent variables on multiple dependent variables simultaneously whereas ANOVA does not.

In this particular instance, there are three types of effects which need to be assessed. Two types of interaction effects are present here, second order and first order. The second order interaction effect is the effect of cognitive style, ad type, and personal relevance taken together on subjects' affective and attitudinal responses (i. e., cognitive style X ad type X personal relevance).

The first order interaction effect is the effect of these same variables taken in pairs (i. e., cognitive style X ad type; cognitive style X

personal relevance; and personal relevance X ad type).

The main effects refer simply to the effects of the individual variables taken one at a time (i. e., cognitive style; ad type; and personal relevance).

### Summary of Hypotheses

Table 6 presents a summary of the disposition of the study's hypotheses. Hypotheses 1 through 4 relate to the AFP and AFN indices and the results here are somewhat disappointing. Hypotheses 2 and 4 refer to the high personal relevance condition and as expected the null hypotheses of no second order interaction effects are supported. Hypotheses 1 and 3, however, relate to the low personal relevance conditions and although the null hypotheses of no second order interaction effects were supported, this was not as expected. Since neither the multivariate nor the univariate Fs were significant, one must conclude that the evidence against the possibility of an interaction effect for ad type, cognitive style, and personal relevance on affective responses to commercials is quite strong.

Hypotheses 5 through 8 relate to the AAD index

HYPOTHESIS	SUPPORTED?	EXPECTED?
H1 - H4 refer to mean responses on affective indices (AFP and AFN)		
#1 - SCL = NCL	YES	NO
#2 - SCH = NCH	YES	YES
#3 - SAL = NAL	YES	NO
#4 - SAH = NAH	YES	YES
H5 - H8 refer to mean responses on attitude toward the ad index (AAD)		
#5 - SCL = NCL	YES	NO
#6 - SCH = NCH	YES	YES
#7 - SAL = NAL	YES	NO
#8 - SAH = NAH	YES	YES
H9 - H12 refer to mean responses on attitude toward the brand index (AB)		
#9 - SCL = NCL	YES	YES
#10 - SCH = NCH	YES	YES
#11 - SAL = NAL	YES	YES
#12 - SAH = NAH	YES	YES

S = sensing type; N = intuitive type; C = concrete commercial; A = abstract commercial; L = low personal relevance; and H = high personal relevance

Table 6. Summary of Hypotheses.

and the results here mirror the results for hypotheses 1 thru 4. It seems, therefore, quite clear that this study has found no evidence to support the second order interaction effects hypotheses.

Finally, hypotheses 9 through 12 relate to the AB index and, as such, are tangential to the main focus of this study. The results here are as expected, with the null hypotheses of no second order interaction effects being supported in all cases.

Since the hypothesis of no second order interaction effects could not be rejected, the next logical step was to examine the first order interaction effects. These were significant in all three instances. This in turn led to the use of the Newman-Kuels test for simple main effects. These tests seem to support the general expectations of the study.

In the next section the results of these analyses will be presented. This section will be followed by a discussion of these results. Finally, the conclusions drawn from this analysis are presented.



## Results

### Second Order Interaction Effects

Alpha level was set at .05 with only effects significant at this level or beyond being considered significant for the purposes of this study. This being the case, the second order interaction effects proved to be non-significant Wilks lambda = .9706 with an approximate  $F = 1.43106$  falling far short of the .05 level required being significant at only .225. Since all of the hypotheses specified for this study are stated in terms of second order interaction effects, in no case was the null hypothesis rejected. Table 7 presents a summary of the significances for the multivariate and univariate Fs.

### First Order Interaction Effects

As table 7 indicates, all three first order interactions display significant multivariate Fs. Since each of these first order interactions could be viewed as separate 2 X 2 designs they will be analyzed individually initially. In the discussion section these individual analyses will serve as the

EFFECT	UNIVARIATE				MULTIVARIATE OVERALL
	AFP	AFN	AAD	AB	
CS X AT X PR	.415	.175	.194	.897	.225
CS X AT	.111	.002*	.051*	.012*	.012*
PR X AT	.049*	.789	.059	.033*	.048*
PR X CS	.170	.010*	.305	.299	.041*
AT	.138	.019*	.451	.845	.026*
CS	.786	.260	.425	.603	.577
PR	.037*	.433	.451	.299	.002*

\* = significant at .05 level

AFP = positive affect index

AFN = negative affect index

AAD = attitude toward ad index

AB = attitude toward brand index

CS = cognitive style

AT = ad type

PR = personal relevance

(Separate MANOVAS were conducted on the individual constructs as well, however, the results of these separate analyses did not differ significantly from the above results and are, therefore, not reported here.)

Table 7. Significance of Fs.

basis for a more comprehensive review of the results. Although there are no a priori hypotheses stated concerning first order interactions, given the hypotheses that were stated, certain outcomes could be expected to obtain for the first order interactions.

Cognitive style x ad type interaction effects.

As table 7 shows, the interaction displays a significant (.012) multivariate F, indicating that subjects' responses are affected by the combined influences of cognitive style and ad type. The table further indicates that for two of the individual indices, negative affect (AFN) and attitude towards the brand (AB), the univariate Fs are significant at .002 and .012 respectively. The attitude towards the ad index (AAD) comes extremely close to a significant univariate F (.051). The fourth index, positive affect (AFP), displays a non-significant univariate F (.111).

The means and standard deviations for these interactions are summarized in table 8. While these results are encouraging, as Kirk (1968) states, "An F test in analysis of variance is an over-all test that indicates whether or not something has happened. It remains for an experimenter to carry out follow-up

	Sensing	Intuitive
Concrete	-2.59 (1.15)	-3.32 (1.39)
Abstract	-2.71 (1.29)	-2.37 (1.14)

Negative Affect Index (AFN)  
(7 point scale: -1 to -7)

	Sensing	Intuitive
Concrete	.11 (.75)	-.21 (.85)
Abstract	-.03 (.84)	.11 (.88)

Attitude Toward Ad Index (AAD)  
(7 point scale: -3 to +3)

	Sensing	Intuitive
Concrete	1.15 (1.00)	.90 (.93)
Abstract	.86 (.72)	1.24 (.83)

Attitude Toward Brand (AB)  
(7 point scale: -3 to +3)

Table 8. Mean Responses and (Standard Deviations) Ad Type X Cognitive Style.

tests to determine what has happened."

Consequently, the Newman-Kuels test was applied to the results. The Newman-Kuels test is an a posteriori test for simple main effects in which pairwise comparisons of the differences among the means are made. The results of this analysis are presented in table 9.

An examination of table 9 reveals that only one of the means is significantly different by the Newman-Kuels test. On the negative affect index (AFN), intuitive types rated the concrete commercial significantly more negatively than sensing types' ratings for either the abstract or the concrete commercials (see figure 23). Contrary to the expectation created by the univariate Fs, there were no significant differences between mean responses for the attitude toward the ad or attitude toward the brand indices indicated by the Newman-Kuels test.

Relevance by cognitive style interaction effects. The first order interaction of relevance by cognitive style displayed a significant multivariate F (.048). An examination of the univariate Fs indicates that the significance of the multivariate F may be largely attributable to a highly significant (.010) interaction effect for subjects' responses to



	Sensing		Intuitive	
	Abstract	Concrete	Abstract	Concrete
AFP	2.88a	2.89a	3.08a	2.60a
AFN	-2.71a	-2.59a	-2.37a	-3.32b
AAD	- .03a	.11a	.11a	- .21a
AB	.86a	1.15a	1.24a	.90a

AFP = Positive affect index (scale = +1 to +7)  
 AFN = Negative affect index (scale = -1 to -7)  
 AAD = Attitude toward ad (scale = -3 to +3)  
 AB = Attitude toward brand (scale = -3 to +3)

Means in any given row without a common subscript are significantly different at the .05 level by the Newman-Kuels test.

Table 9. Cognitive Style X Ad Type Simple Main Effects.

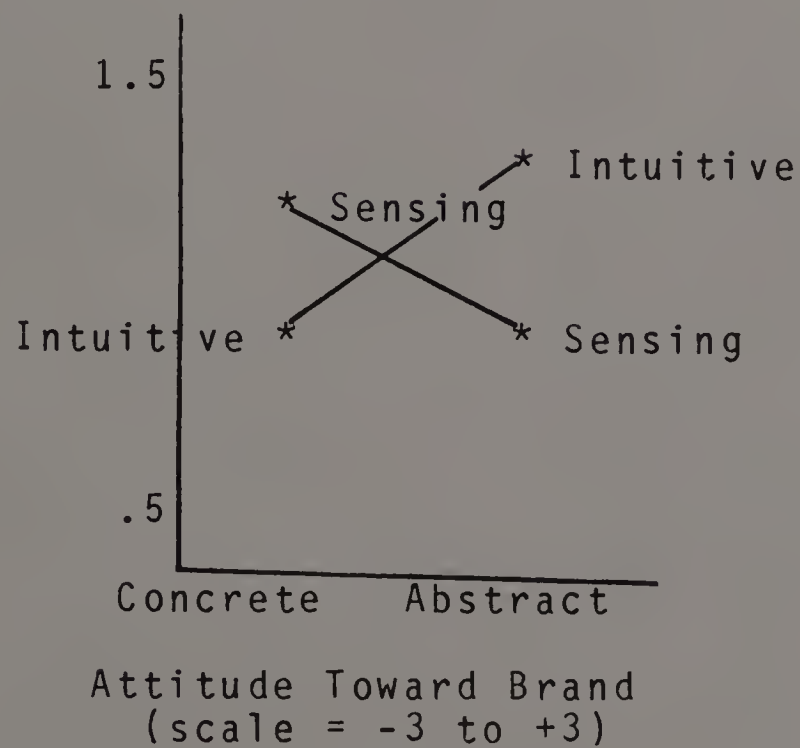
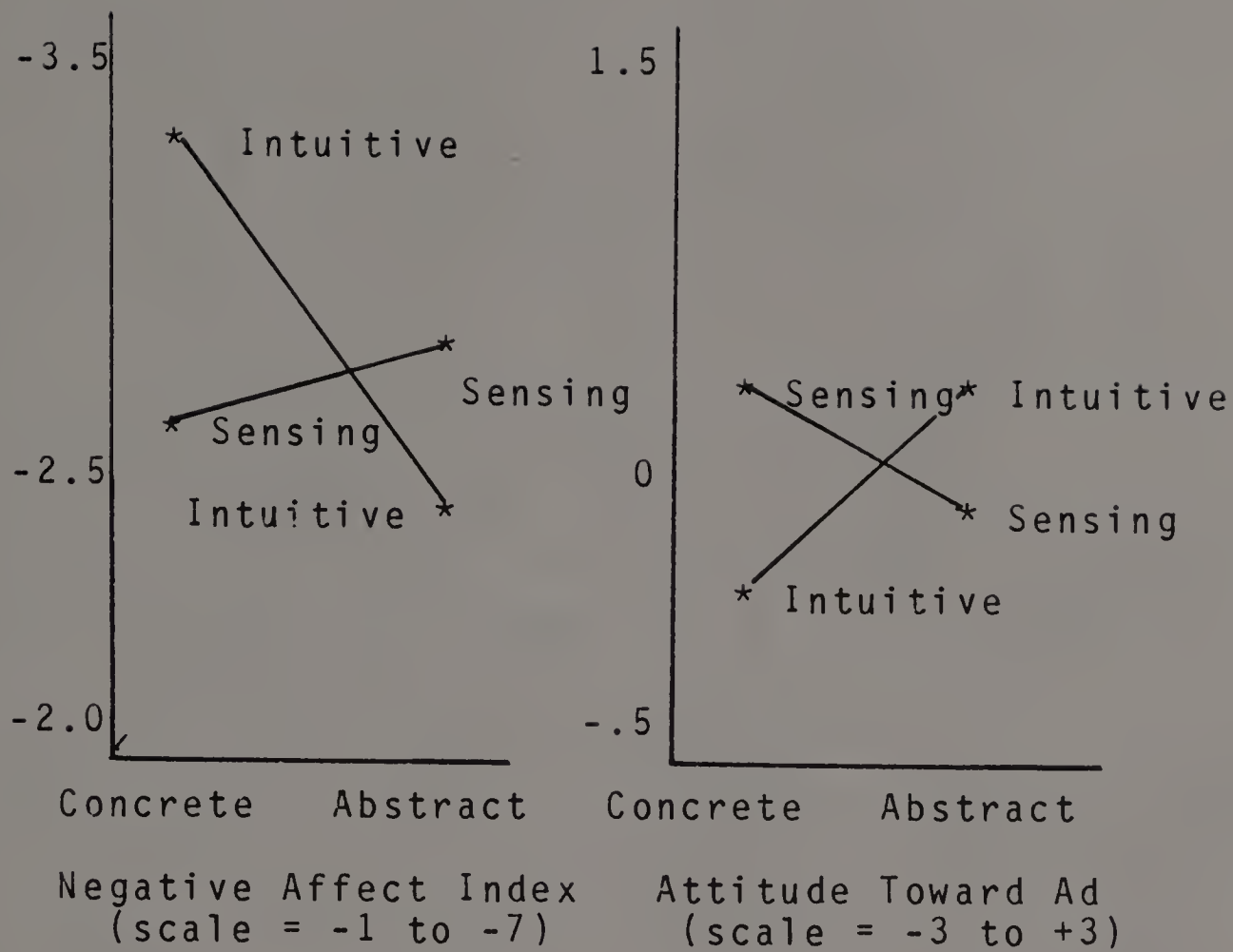


Figure 23. Significant Cognitive Style X Ad Type Interaction Effects (Univariate Fs).

the AFN. The means and standard deviations for these interactions are summarized in table 10.

None of the remaining three indices have univariate Fs that are either significant or approach significance. This result was in fact supported by the a posteriori Newman-Kuels test for simple main effects. The results of this test are presented in table 11.

An inspection of table 11 reveals only one mean which is significantly different from the remaining means. Again, the significant difference is in response to the negative affect index (AFN). In this instance, intuitives rated commercials significantly more negatively under conditions of high personal relevance (involvement) than under conditions of low personal relevance (involvement). This negative response was also significantly greater than sensing types' responses under high personal relevance (involvement), but not under conditions of low personal relevance (involvement). The mean responses are plotted in figure 24.

Relevance X Ad Type Interaction Effects. The first order interaction of relevance x ad type displayed a significant multivariate F (.048). An examination of the univariate Fs indicates that the

	High	Low
Sensing	-2.49 (1.22)	-2.81 (1.40)
Intuitive	-3.14 (1.21)	-2.55 (1.24)

Negative Affect Index (AFN)  
(scale = -1 to -7)

Table 10. Mean Responses and (Standard Deviations) Relevance X Cognitive Style.

	Sensing		Intuitive	
	High	Low	High	Low
AFP	2.61a	3.16a	2.79a	2.90a
AFN	-2.49a	-2.81ab	-3.14b	-2.55a
AAD	.15a	- .06a	- .07a	- .04a
AB	1.00a	1.00a	.94a	1.20a

High = High personal relevance

Low = Low personal relevance

AFP = Positive affect index (scale = +1 to +7)

AFN = Negative affect index (scale = -1 to -7)

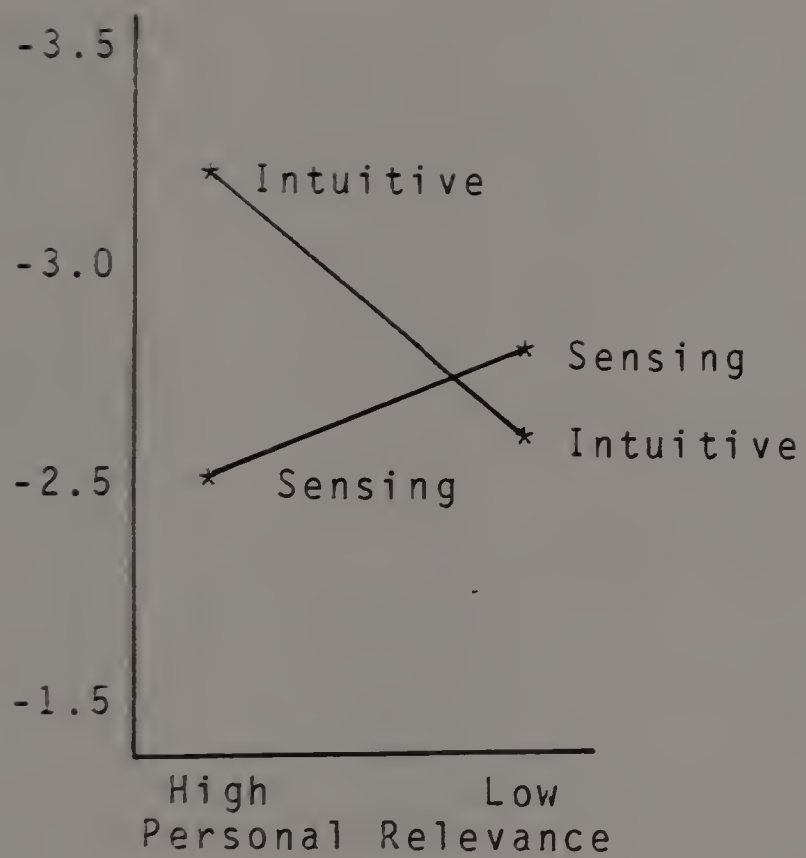
AAD = Attitude toward ad (scale = -3 to +3)

AB = Attitude toward brand (scale = -3 to +3)

Means in any given row without a common subscript are significantly different at the .05 level by the Newman-Kuels test.

Table 11. Cognitive Style X Personal Relevance  
Simple Main Effects.





Negative Affect Index (AFN)  
(scale = -1 to -7)

Figure 24. Significant Cognitive Style X  
Relevance Interaction Effects.

significance of the multivariate  $F$  may be attributable to significant interaction effects in the subjects responses to the AFP index (.049) and the AB index (.033) (see figure 25). Neither the AFN nor the AAD indices displayed significant univariate  $F$ s. The means and standard deviations for these interactions are displayed in table 12.

The a posteriori Newman-Keuls test for simple main effects again found only one significant difference in mean responses. As can be seen in table 13, once again the difference is on an affective response. However, here we have a positive affect. In this instance, the abstract commercial elicited significantly more positive responses under conditions of low personal relevance (involvement) than the abstract commercial did under conditions of high personal relevance (involvement). Further, the abstract commercial generated more positive response under low personal relevance (involvement) than the concrete commercial did under either condition. The mean responses are plotted in figure 25.

Contrary to the indications of the univariate  $F$ , there were no significant differences between mean responses for the attitude toward the brand index indicated by the Newman-Kuels test results.

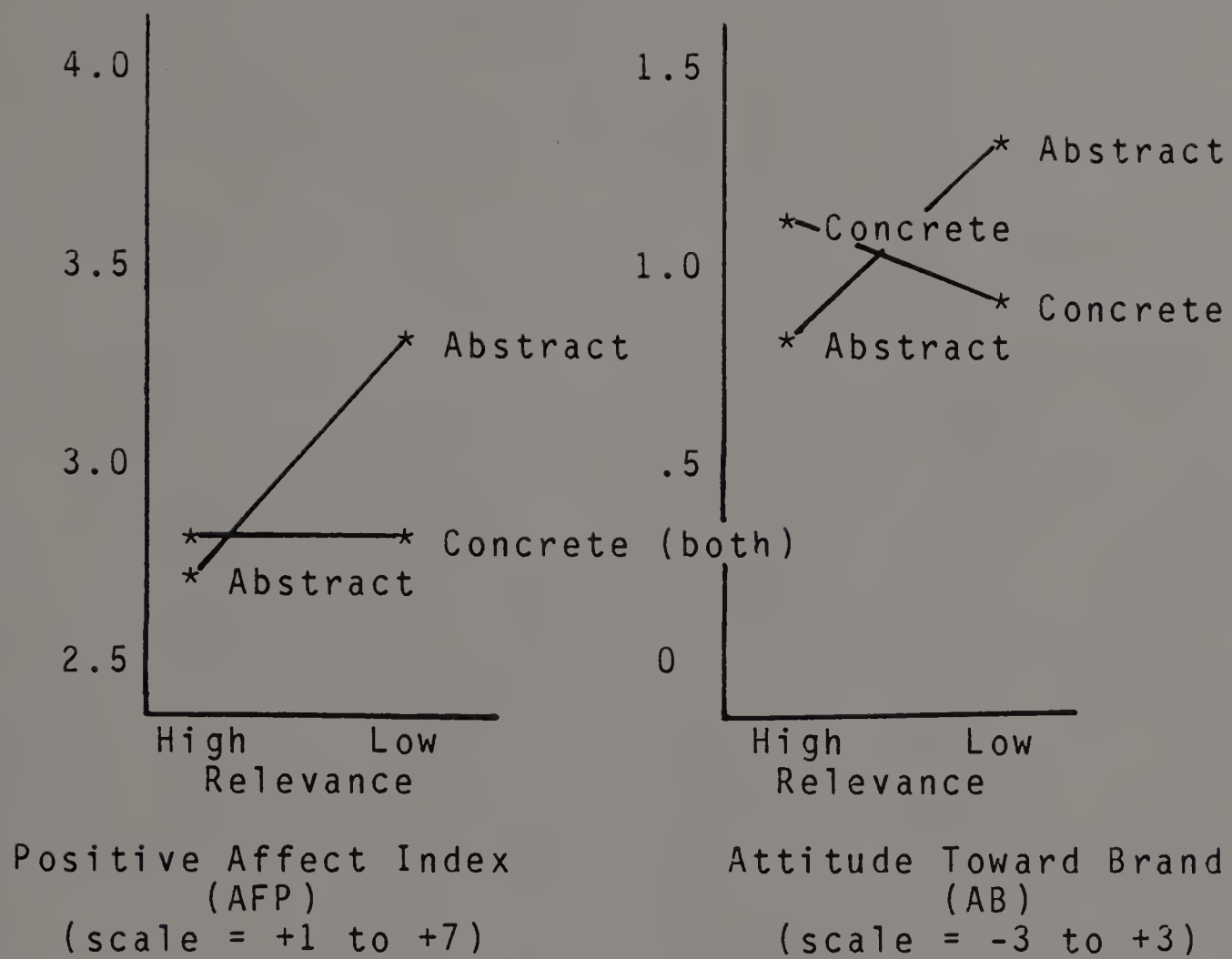


Figure 25. Significant Relevance X Ad Type Interaction Effects By Univariate Fs.

	Personal Relevance	
	High	Low
Concrete	2.74 (1.01)	2.76 (.94)
Abstract	2.66 (1.16)	3.30 (1.30)

Positive Affect Index (AFP)  
(scale = +1 to +7)

	Personal Relevance	
	High	Low
Concrete	1.09 (1.13)	.96 (.78)
Abstract	.85 (.80)	1.24 (.75)

Attitude Toward Brand (AB)  
(scale = -3 to +3)

Table 12. Mean Responses and (Standard Deviations) Relevance X Ad Type.

	Abstract		Concrete	
	High	Low	High	Low
AFP	2.66a	3.29b	2.74a	2.76a
AFN	-2.59a	-2.50a	-3.05a	-2.86a
AAD	- .03a	.11a	.11a	- .20a
AB	.85a	1.24a	1.09a	.96a

High = High personal relevance

Low = Low personal relevance

AFP = Positive affect index (scale = +1 to +7)

AFN = Negative affect index (scale = -1 to -7)

AAD = Attitude toward ad (scale = -3 to +3)

AB = Attitude toward brand (scale = -3 to +3)

Means in any given row without a common subscript are significantly different at the .05 level by the Newman-Kuels test.

Table 13. Personal Relevance X Ad Type Simple Main Effects.



## Discussion

While no evidence was found to support the hypotheses of second order interaction effects, further analysis did reveal several interesting first order interaction effects. This section has three purposes. First, a brief review of the rationale underlying the study's hypotheses will be presented. Second, an overall discussion of the study's findings will be presented. Finally, the implications of the study's findings for the elaboration likelihood model (ELM) (Petty and Cacioppo, 1981a) and the attitude toward the ad concept will be discussed.

### Review of Rationale

The expectation here was that cognitive style and ad type would be significant factors affecting consumers' responses only under conditions of low personal relevance (involvement). It was further anticipated that these factors would exhibit the most pronounced effect on affective responses. Less

pronounced effects were expected for attitude toward the ad responses. Attitude toward the brand responses were not expected to be affected.

These expectations are consistent with Petty and Cacioppo's (1981a) elaboration likelihood model (ELM) of attitude change. The ELM argues that central processing of a persuasive communication depends upon two factors: motivation to process the communication and the ability to process the communication. It has been argued here that ability is not generally a constraining factor in the processing of consumer advertising. However, motivation may be a major factor under conditions of low personal relevance (involvement). It has also been assumed that motivation is not a problem under conditions of high personal relevance (involvement).

Therefore, an important question is how can consumers' motivation to process a persuasive communication be enhanced under conditions of low personal relevance?

The position taken here has to been to argue that motivation to process can be enhanced by presentation of the communication in a manner which is consistent with the individual's preferred cognitive style (e. g., Yeakley, 1982 and Zaltman

and Walendorf, 1983). Zajonc (1980) argues that preference type (affective) reactions require no cognitions. Thus, the expectation here was that these preferences would be most influential and apparent under conditions of low involvement, where cognition is minimal.

Therefore, the expectation was that affective responses would be affected by cognitive style, ad type, and personal relevance (involvement) most significantly. Attitude toward the ad and attitude toward the brand were expected to be affected to a lesser degree. Since the attitudinal responses involve, by definition, a greater degree of cognitive activity, the assumption is that affective responses are less influential here (e. g., Zajonc and Markus, 1982).

To recapitulate, the ELM argues that the elaboration likelihood of a persuasive communication is a function of the consumer's ability and motivation to process the communication. It is argued here that, for most consumer advertising, ability is not a constraint and, therefore, elaboration likelihood is effectively a function of motivation. Motivation to process may be enhanced by cognitive style and ad type compatibility.

### Personal Relevance X Ad Type: A Closer Look

The a posteriori Newman-Kuels test for simple main effects indicates that, in general, the abstract ad generated more positive affective response under conditions of low personal relevance (involvement) than did the concrete ad. A possible explanation for this is that low levels of motivation to process are not taxed by the vague claims of the abstract ad and therefore the ad is less irritating (e. g., Bartos, 1981).

The lack of significant differences on the attitudinal responses also lends support to the general expectations of the study. As expected, the most pronounced effect here is an affective response. It should also be noted that the difference is most pronounced under conditions of low personal relevance (involvement).

### Cognitive Style X Ad Type: A Closer Look

The Newman-Kuels test indicated that the concrete ad generated more negative affective responses from intuitive types than did the abstract

ad. This is consistent with the general expectations of the study that intuitives would prefer abstract to concrete ads. However, the lack of a significant difference in preferences for sensing types was unexpected.

Sensing types prefer to focus their attention on facts in perception. It is possible that neither the abstract nor the concrete ads were perceived as being factual by the sensing types. This could explain the lack of a clear preference on the part of the sensing types. Future studies should incorporate a manipulation check to rule out this explanation.

An alternative explanation could be that sensing types affective reactions are more inhibited by their focus on facts in perception. Intuitive types, however, are less inhibited due to their openness to possibilities in perception. Therefore, for intuitive types, affective reactions to ads may be relatively independent of cognitions (e. g., Shimp, 1981), while this may not be the case for sensing types.

#### Personal Relevance X Cognitive Style: A Closer Look

The Newman-Kuels test for simple main effects



here indicates that for intuitives advertisements elicited significantly more negative affective responses under conditions of high personal relevance (involvement) than under conditions of low personal relevance (involvement). Intuitives were also significantly more negative on the AFN scale under high personal relevance (involvement) conditions than were sensing types. However, the mean responses of intuitive types under conditions of high personal relevance (involvement) were not significantly different from the mean responses of sensing types under conditions of low personal relevance (involvement).

With the effects of ad type removed, this result is somewhat difficult to interpret. The expectation here was that differences in responses would be a function of cognitive style and ad type in interaction. With the effects of ad type removed, the expectation would be that no differences would be observed. That this is not the case is perplexing.

One possible explanation, however, is that under conditions of high personal relevance (involvement) intuitives may feel compelled to respond in a more analytic and logical manner (i. e., a sensing type response). Since this is contrary

to the intuitive type's preferred mode of perception, this may lead to a more negative affective response. Future studies should attempt to isolate the effects of involvement from ad type to arrive at a more satisfactory explanation for this effect.

### Implications For The ELM

Petty and Cacioppo (1981a) associate most consumer product advertising with the peripheral route to attitude change. The peripheral route by its definition implies a low personal relevance (involvement) situation (i. e., motivation to process information relevant to the brand or its use is low). They also argue that attitude change via the peripheral route relies on the effectiveness of persuasion cues.

These persuasion cues are "...factors or motives inherent in the persuasion setting that are sufficient to produce an initial attitude change without any active thinking about the attributes of the issue or the object under consideration." (Petty and Cacioppo, 1981a).

One such cue may be the type of advertisement employed (i. e., concrete versus abstract). This

study found that under conditions of low personal relevance (involvement), abstract ads produced more positive affective responses than did concrete ads. Although there were no significant differences observed in attitudes toward the ads or the brand, this is still an important finding. As Petty and Cacioppo (1981a) point out, permanent attitude change may not take place until after the product has been tried.

For intuitive types, abstract ads generated less negative affective responses than did concrete ads. This would seem to indicate that abstract ads are more likely to be persuasive and less likely to result in a "boomerang" effect for intuitive types.

#### Implications For Attitude Toward The Ad

This study found no significant differences in mean responses to the attitude toward the ad or the attitude toward the brand indices resulting from differences in ad type, cognitive style, or personal relevance. There are several alternative explanations for this result.

First, it is possible that these factors do not in fact have any significant impact on these

constructs. This is unlikely in that a number of studies would seem to refute this explanation for personal relevance and ad type at least (see appendix B).

Another possibility is that the personal relevance (involvement) manipulation was not effective enough and that the situation was perceived as one of low personal relevance (involvement) by all or most of the subjects. Indeed, the product choice itself may have precluded high personal relevance for some subjects.

In general, the responses to the attitude toward the ad and the attitude toward the brand indices were neutral to mildly positive. It is quite possible that for a product of more interest/relevance for the individual, affective responses to the ads may influence attitudes toward the ad and brand more strongly.

### Conclusion

The analysis does not support the primary hypotheses of second order interaction effects.

However, all three first order interactions were found to be significant. Newman-Kuels tests for simple main effects indicated that these significant first order interactions were all attributable to significant differences in subjects' affective responses to the ads.

This result was as expected. However, the differences were primarily attributable to intuitive types, with sensing types responding fairly uniformly to all treatments.

In the next chapter, the conclusions of this study will be presented. This will include an overall review of the study's objectives and a restatement of the manipulations employed. The conclusions will also discuss the limitations and usefulness of the study and provide recommendations to managerial action. Finally, some suggestions for future research efforts will be presented.



## C H A P T E R   V I

### CONCLUSIONS

#### Introduction

The objective of this study was to investigate the interaction effects of cognitive style, personal relevance, and ad type on consumers' affective and attitudinal responses to advertising. A review of the literature relating to these constructs led to the conclusion that much of the empirical research to date on consumer responses to advertising has focused on the outcomes of consumer perception rather than the structures which direct those perceptions.

Consequently, attention here has focused on determining how individual differences in cognitive style in interaction with differing types of advertising and levels of personal relevance impact on consumers' affective and attitudinal responses.

#### Manipulations

### Cognitive Style

Subjects were classified as preferring either a sensing or an intuitive cognitive style based on their responses to the MBTI SN scale. Sensing types prefer to focus their attention on facts that are observable through the senses of sight, touch, taste, hearing, and smell. The focus is on what is. Intuitive types prefer to focus their attention on possibilities that can be inferred from the information available. The focus is on what could be.

### Ad Type

Two types of ads were employed. The concrete ad presented the product's benefits in the form of superlative and explicit product claims. The abstract ad presented the product's benefits in the form of superlative but vague product claims.

### Personal Relevance

This variable was manipulated by the use of a cover story. In the high personal relevance condition, subjects were told the product would soon

be introduced on their campus and that they would receive samples. In the low relevance condition subjects were told that the product would soon be introduced on college campuses in California and that there were no plans to market the product on the east coast.

The belief was that individuals classified as sensing types would in general prefer ads that are concrete. Individuals classified as intuitive types were expected in general to prefer ads that are abstract. This effect was expected to be particularly pronounced under conditions of low personal relevance.

### Limitations of The Study

There are several limitations to the present study which need to be recognized. None are deemed to be serious and all may be overcome through future research efforts.

### Artificiality of the Situation

Obviously, the laboratory setting is not the ideal setting for developing general statements concerning consumers' responses in the "real world." However, it is an excellent setting for testing theory, which is what this theory has done. However, the laboratory setting does limit the generalizability of the findings.

#### Product

While a hand soap is a very appropriate choice for this study, it is only one product. Therefore, the findings cannot be considered representative of consumer responses to products in general or even to consumer non-durables in general.

#### Commercials

The commercials employed in this study were recorded by a professional announcer. However, they do fall short of standard radio commercial production. For example, there are no sound effects or background music. While this allowed for economy in production, it does limit the generalizability of the findings to similar type commercials. Also, the

commercials were presented devoid of an editorial context. This may have artificially enhanced the impact of the commercials on subjects' responses.

### Summary

In general, these limitations are not major and, for the most part, could be easily offset by future research. It can also be argued that such limitations are inherent in research of this type. This study marks a beginning for a program of research which examines an old problem from a new perspective. Such initial efforts are characteristically narrow in scope.

### Usefulness of The Study

On the positive side, the study does provide a number of useful results. Although the results were not exactly what was expected, they were not entirely disappointing either.



### Focus

At a minimum, this study demonstrates that the approach to consumer response advocated here, with the consumer as the focal point, is a viable and fruitful approach. Hopefully, the results obtained here will encourage others to investigate this orientation. Additional research is needed on the constructs examined here as well as other variables potentially relevant to individual differences in consumer responses to advertising.

### Cognitive Style

This study provides support for the use of cognitive style as a general indicator of consumer response. The results indicate some rather clear relationships between cognitive style and ad type preferences. For example, intuitive types clearly rate abstract commercials more positively than concrete commercials for both high and low personal relevance (involvement) situations. Additionally, sensing types rate abstract commercials more positively than concrete commercials in low personal relevance situations but not in high personal relevance situations.

### Multidimensionality

This study has examined consumer response to advertising from a multidimensional perspective. It is unlikely that the subtlety of the interaction effects of cognitive style with ad type and personal relevance would have been apparent had the study employed a univariate approach to analysis of the data. This accentuates the importance of the multivariate approach to consumer behavior phenomena.

### Creative Advertising

The findings here would seem to indicate that effects of "creative" advertising can in part be explained in terms of the individual differences among consumers. The abstract version of the test commercial relies on superlative but vague product claims, a description which is also characteristic of "creative" commercials. It would appear that the effectiveness of such commercials is at least in part determined by the cognitive style preferences of consumers.

### Segmentation

There is little information presently available relating cognitive style to target audience profiles. However, for some groups such as doctors, engineers, teachers, and nurses large data bases have been developed (McCaulley, 1981). As the popularity of the MBTI as a career planning instrument continues to grow, its usefulness as a segmentation variable will be enhanced by the increased availability of data.

At this point, profiles may be obtained for certain specialized markets (e. g., engineers, doctors, nurses, etc.). Uses of such profiles could include development of promotions to doctors based on cognitive style preferences to solicit acceptance of new prescription drugs. This reflects the fact that doctors' choices of area of specialization tends to be influenced by their cognitive style preferences.

### Summary

This study provides several useful findings for marketing. It brings attention to the new orientation for research on consumers' responses to advertising. It suggests that a shift in focus from the outcomes of exposure to advertising to a focus on the structure within the individual. It argues that

it is this structure which determines what information will be selected as input to the eventual outcomes of exposure. Cognitive style has been demonstrated to be a useful construct for marketers to consider in this approach.

This study also clearly supports a multidimensional perspective to consumer behavior research. There is some support for the use of this approach to the eventual understanding of the impact of "creative" advertising on consumer responses.

Finally, the cognitive style dimension may prove useful in market segmentation for specialized markets in the near term and broader markets in the long term.

#### Managerial Recommendations

For marketing managers there are several recommendations which would appear useful and appropriate. Recognizing that this is a laboratory study and that additional research is necessary, still several points appear to warrant attention.

First, whenever possible, test ads for new

products/campaigns should at least include abstract and concrete versions. Depending on the cognitive styles of target consumers and the personal relevance of the purchase situation for the individual consumer, preferences for the commercial versions will differ.

It would also appear to be true that, for at least some consumers/situations, the concrete (i. e., superlative and explicit product attribute claims) type commercial will not be the most effective. For example, in this study, intuitive types preferred the abstract (i. e., superlative but vague) type commercial in both high and low personal relevance situations.

The study also provides support for the notion that abstract commercials are likely to be more effective than concrete commercials for both intuitive and sensing types under conditions of low involvement.

Another actionable finding for some marketers is the usefulness of existing profiles of certain professional markets. Marketers targeting such professional groups as doctors, engineers, teachers, and nurses can draw upon data bases which have been developed. These profiles identify cognitive style preferences within given areas of specialization



within these occupational categories. As research in this area progresses, the usefulness of cognitive style as a segmentation base should become applicable to a wider range of target markets.

Marketers should recognize that audiences for both broadcast and print media are becoming more fragmented and concentrated. They are likely in the process to become more homogenous. This should be true for cognitive style preferences in particular. This polarization along programming lines may possibly reflect cognitive style preferences. Marketers should begin now to collect data relevant to consumer profiles along cognitive style preference dimensions.

Finally, as the present analysis demonstrates, marketers should be hesitant to accept overly simplistic explanations of consumer behaviors. In the present study, the first order interaction effect of ad type with cognitive style would lead one to believe that sensing types prefer concrete commercials. A further analysis of the sensing types mean responses reveal this to be true only under conditions of high personal relevance (involvement).

### Future Research Recommendations

The present study would seem to indicate that the orientation on the individual holds promise for marketers' understanding of consumers' responses to advertising. Much remains to be done, however.

To begin, the initial hypotheses need to be reconsidered in light of the results of this study. New tests need to be conducted on these revised expectations. A wider variety of products and situations need to be factored into future studies. Until the relationships that exist are more clearly understood, it would probably be wise to retain the laboratory setting. This allows for maximum control of the relevant variables and minimizes the impact of extraneous uncontrollable variables.

In a parallel fashion, research could be conducted to develop profiles of MBTI cognitive styles with a wider range of consumer behaviors. Whenever research entails consumer profiling (e. g., life style analysis, AIO inventories, etc.) marketing researchers should consider the feasibility of including cognitive style as an additional factor. In this manner, we may be able to develop additional

research hypotheses concerning cognitive style and its impact on consumers' behavior.

A second parallel stream of research would focus its efforts on developing a shorter form of the full MBTI. This would allow for the development of more exacting consumer profiles. Presently, the full instrument requires approximately one hour to administer and, therefore, limits the amount of additional data which may be collected in one session. A shorter form would enhance our ability to collect additional data and, if reliability can be maintained at or near present levels, the precision with which we classify consumers will also be enhanced.

Finally, as a long term research recommendation, it is desirable that we develop increasingly "real world" examples of abstract and concrete type ads. These ads, in turn, should also be tested in increasingly "real world" settings. The ads employed in the present study provide a conservative test of the abstract and concrete commercial types. More realistic adds would be stronger manipulations of the abstract and concrete dimensions and therefore more likely to produce stronger effects among consumers.

### Conclusion

This study has provided support for a new focus in research on consumer response to advertising. It has also demonstrated that the cognitive style dimension can be a useful construct in the understanding of the persuasion process. Hopefully, the results reported will raise more questions than they have answered. If only some marketing researchers are stimulated by these results to explore this approach further the study may be considered a contribution and a success.

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Appendix A. Summary of Involvement Research.

Key For Involvement Definitions

- 1 = Commitment (e.g., stance on issue)
- 2 = Cognitive Complexity (e.g., personal connections)
- 3 = Importance (e.g., salience; personal meaning)
- 4 = Situational/Personality (e.g., motivation)
- 5 = Brain Wave Activity
- 6 = Unclear

Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research Type	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
Appel, Weinstein & Weinstein, 1979, Journal of Advertising Research (JAR)	5/Media	H1:TV viewing generates greater right brain than left brain activity. H2:High recall comm's >left brain activity than low recall commercials. H3:High recall comm's >brain wave activity in both hemispheres than low recall.	10 X 2 factorial	Single	Right-handed Women/ 30	4-Way Anova F-Test	Fail to support H1, H2- Support of H3.
Apsler & Sears, 1968, Journal of Personality & Social Psychology (JPSP)	1/ 7/task	H1:Forewarning reduces change under high involvement H2:Facilitate change under low involvement.	2 X 2 factorial	Single- Assignment Multiple- Product Class	Households/ 143	Anova p<.05 F-Test	Support hypothesis
Belk, 1981, Advances in Consumer Research, (ACR), Vol. 9	7/task	H1:Low involvement gift giving situations warrant less costly, more easily purchased, and lower quality gifts.	Randomized Block	Multiple	Female shoppers 291	Anova F-Test	Generally support hypothesis.
Bloch, 1981(a), ACR, vol. 8	6/Product Class	Hone	Scale construc- tion	W/A	Students/ 381	Principle Component VARIMAX	44 items reduced to 17 item scale of product class. Involvement(27.7 Variance explained).
Bloch, 1981(b), ACR, Vol. 9	4/Product	H1:The magnitude of enduring involvement is positively rela- ted to the extent which an individual perceives such in- volvement as a vehicle for self expression or enhancement.	Survey	Multiple	Adults-male/ female/ 438	Bivariate Correlation	Generally support hypothesis.

Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
Bowen & Chafee, 1974, Journalism Quarterly (JQ)	11/product	H1: Pertinent appeals more effective only under high involvement.	2 X 2 X N factorial	Single	Students/ 97	Z-Test	Support H0.
Calder, 1979 Attitude Research Plays for High Stakes (ARPHS)	2/Product- issue	N/A	N/A	N/A	N/A	N/A	Questions existence of low involvement information pro- cessing hierarchy.
Chafee, 1967, Journal of Communication (JC)	3/Communi- cation Message	H1: Communication less likely to continue under non-homeostatic conditions. H2: Non-homeo- situation more likely to be an attempt to achieve homeostasis than some other type of communication.	Before and After Ex- perimental	Multiple	Students/ 105	Anova F-Test	Support H1; sal- ience inversely related to value change $p < .05$ . Inconclusive on H2.
Chafee, 1967(b), JC	3/Issue	Unclear	1) After only 2) Before/ After	Familiarity & Similarity Rankings	Jr. High Students 400	Anova F-Test	Salience and per- tinance relations provide indepen- dent sources of value change.
Chafee and Lindner, 1969, JC	3/Object	H1: Salience, per- tinance & disso- nance operate as 3 distinguishable sources of changes in evaluations. H2: These changes will be manifested in corresponding changes in directed behavior toward the object.	2 Experi- ments. 3 X 3 com- plete fac- torial be- fore-after design	Single	High school Students/ 100 Jr. High/ 149	F-Test on Row means	Non-supportive of hypothesis.



Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
Clarke & Belk, 1979, ACR, Vol. 6	4/Product & Task	H1:More stores shopped, time & money spent under high task involve- ment than low task. H2:More stores shopped, time & money spent under high product involve- ment than low. H3:Effects of task and product involve- ment will be additive with no interaction.	2 X 4 factorial	Multiple	Undergraduate Females/ 56	Anova F-Test	Support H1 and H2. Reject H3.
DeBruincker, 1979, ARPIIS	2/Communi- cation	N/A	N/A	N/A	N/A	N/A	Proposes 4 orders Model information processing.
Eagly and Manis, 1966, JPSP	3/Issue	High involved males (females) reject fe- male (male) oriented messages.	2 X 2 X 2 factorial	Assignment	Jr. High Stu- dents/ 124	Anova F-Test ANOCOVA	Support hypothesis.
Finn, 1982, AMA Edu- cators' Proceedings (EP)	1/Behavioral	N/A	N/A	N/A	N/A	N/A	
Freedman, 1964, Jour- nal of Abstract Psychology	1/Issue	H1:Low involvement > greater change with >discrepancy. H2:High involvement > change with moderate discrepancy.	2 X 3 fac- torial before- after	Assignment	Undergraduate & High School Students/ 110	Anova F-Test	Support H1 and H2.
Gardner, Mitchell & Russo, 1978, ACR, Vol. 5.	2/Task	H1:Response time to attributes and brand evaluation statements greater for high involvement. H2:Response time for	2 X 4 after only	Assignment	Students, Secre- taries & Staff/ 30	Anova F-Test	Support H1 and H2, except for atten- tion & evaluation.

Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
attention, evaluation							
Grass and Wallace, 1974, JAR	2/Media	H1: T.V. and Print differ under natu- ral conditions con- cerning recall of facts.	after- only	Assignment	Unclear/ 168	None	Generally support hypothesis.
Houston and Roths- child, 1978, AMA EP	4/ N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hupfer and Gardner, 1971, ACR Second Annual Conference	1/Product- Issue	H1: Issues are more involving than products.	survey	Single	Undergraduate Students-Male/ 44	Anova Tukey: F-Test	Support hypothesis.
Kassarjian, 1981, ACR, Vol. 8	4/Product- Situational	N/A	N/A	N/A	N/A	N/A	Questions the abi- lity to observe low involvement thus in- ability to manipulate
Kassarjian & Kas- sarjian, 1979, ARPHS	6/Product	N/A	N/A	N/A	N/A	N/A	Questions traditio- nal high involvement hierarchy for products
Krugman, 1965, Public Opinion Quarterly (POQ)	2/Media	N/A	N/A	N/A	N/A	N/A	Conceptual shift under high/low in- volvement: High - pronounced shift, Low- gradual shift.
Krugman, 1966-67, POQ	2/Media	Involvement is a function of per- sonal connections.	after only	Single	Shoppers/ 29 Various/ 300	None	Support hypothesis.

Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
Krugman, 1971, JAR	5/Media	Under low involve- ment media (i.e. no animate demands) brain wave activity low.	monitoring during treatment	Single	Secretary/ 1	None	Support hypothesis.
Krugman, 1977, JAR	5/Media	N/A	N/A	N/A	N/A	N/A	High involvement operates on left hemisphere. low involvement operates on right hemisphere.
Krugman, 1979, ARPHS	5/Media	T.V.-right brain Print-left brain					
Krugman, 1980, JAR	5/Media	Left-attends to Right-screens					
Lastovika, 1979(a), ACR, Vol. 6	1/Product Class	H1:Relation between norm impact and routinized behavior H2:+relation between noncommitment and routinized behavior. H3:+relation between knowledge, experience and routinized behavior. H4:+relation between age and routinized- like behavior. H5:-relation between occupation and routi- nized like behavior. H6:Sex, marital status and income have no relation. Major:Can product classes be defined in	Survey	Single for Assignment- Multiple for Product Class	Households/ 143	Anova p <.05 F-test	Inconclusive (62.35 unaccounted for).

Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
terms of product involvement.							
Lastovika, 1979(b). Attitude Research Under the Sun	Conceptual hierarchies of learning theories, Advertising copy typology.						
Lastovika and Bonfield, 1979, Working Paper, Temple University	3/Product Issue	H1: Individuals do not necessarily hold attitudes toward branded consumer products. H2: Individuals are more likely to hold attitudes toward issues than brands.	Survey	Single	Female Household heads/ 49	T-test 3-way Anova F-test	Generally support hypothesis.
Lastovika and Gardner, 1978, ACR, Vol. 5	2/Product	H1a: High Involvement consumers are highly complex in decisions and perceptions. H1b: Low Involvement consumers are low complex in decisions and perceptions. H2: High Involvement - high dimensionality on attributes.	Survey	Multiple	Undergraduate Students/ 127	Spearman Correlation	Generally support hypothesis.
Lastovika and Gardner, 1979, ARPHS	1/Product Class	not stated (exploratory)	3 X 3 factorial	Multiple	Students/ 40	Factor Analysis Scree test	Familiarity not deterministic of normative and commitment held.
Leavitt, Greenwald & Obermiller, 1981, ACR, Vol. 8	2/Communication	N/A	N/A	N/A	N/A	N/A	Proposal for re-search orientation in lieu of multi-

Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
ple approaches.							
Miller, 1965, Journal of Experimental & Social Psychology	3/Issue	Attitude change from communication H1: Least change under high involvement and dogmatism. H2: Most change under both low H3: Intermediate change under combinations.	2 X 2 X 2 factorial	Multiple	High school Students/ 40	Anova F-test	Involvement manipulation increase: -Increased extremity of attitude. -support hypothesis -latitudes of acceptance unaffected by product. -cons more resistant than pros.
Mitchell, 1981, ACR, vol. 8	4	N/A	N/A	N/A	N/A	N/A	Provides a nomological network for involvement.
Hewman and Dolich, 1979, ACR, Vol. 6	2/Product	Social judgement involvement effective in explaining message acceptance or rejection.	2 X 3 factorial	Single	Students/ 50	Not reported	Inconclusive
Petty and Cacioppo, 1979, JPSP	3/Issue	H1: Increased involvement enhances processing of message content. H2: Cognitive and affective responses more extreme under high. H3: Increased involvement should decrease agreement with counter attitudinal message.	2 X 2 factorial	Single	Students/ 24 Students/ 72	Newman-Keuls	Support hypothesis
Petty and Cacioppo, 1981, ACR, Vol. 8	3/Issue-Product	High - Persuasion affected by message quality. Low - Credibility or attractiveness.	2 X 2 X 2 factorial	Single	Students/ 145 Students/ 240	Newman-Keuls	Support hypothesis



Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
Preston, 1966, JQ	Pertin- ence	High pertinence con- gruity principle operational. Low pertinence: is not operational.	3 X 3 X 2 factorial	Pertinence is assumed	Students/ 90	T-test Chi-square	Inconclusive
Preston, 1970, JQ	(See Krug- man 1965)	N/A	N/A	N/A	N/A	N/A	Call for reinter- pretation of in- volvement based on content versus con- text for Advertise- ments.
Ray, Sawyer, Roths- child, Heeler & Reed, 1973, New Models for Mass Communication Research	# points subjs use to evaluate brands	Not stated - Explora- tory in terms of 3 orders model.	Post- hoc in lab and field	Multiple	Various/ 8000+	Post hoc	Provide support for distinct high and low involvement hierarchies.
Rhine and Polowniak, 1971, JPSP	3/Issue	H1: Low involved indi- viduals less resis- tant to change. H2: Low involved indi- viduals less committed to issue. H3: Simple reading of message may increase involvement.	2 X 2 factorial	Single	Students/ 144	2-way Anova F-test	Support hypothesis.
Rhine and Severence, 1970, JPSP	3/Issue	Exploratory look at social judgement theo- ry versus cognitive dissonance theory as explanation of atti- tude change under le- vels of involvement.	3 X 2 X 2 factorial	Single	Students/ 226	Anova F-test	More attitude change under low support social judgement theory over cogni- tive dissonance.
Robertson, 1976, JAR	1/Commu- nication	N/A	N/A	N/A	N/A	N/A	Refutation of ac- tive audience pa- radigm.

Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
Rothschild, [1979(a)], ARPHS	See Roths- child and Houston, 1978	N/A	N/A	N/A	N/A	N/A	pragmatic strategy paper
Rothschild and Hous- ton, 1977, AMA Ep	2/Politi- cal	H1: High involvement creates higher com- plexity.	Survey	By Assign- ment	Voting-age Residents/ 90	Correlation Z-test McNemar test Chi-square	Tends to support hypothesis.
Rothschild and Hous- ton, 1980, ACR, Vol. 7	2/Response	H1: Situational invol- vement increases mean level of response in- volvement increases. H2: Interaction of si- tuational and enduring involvement exists on response involvement such that at low levels of situational involve- ment, there will be a direct effect of endu- ring involvement on mean response involve- ment, while at high le- vels this effect will disappear. H3: Greater variance in response involvement as exhibited by standard deviations will occur at lower levels of situ- ational involvement.	Survey	By Assign- ment	Voting-age Residents/ 103	T-test	Support H2 Reject H3 H1 unclear
Rothschild and Ray, 1974, Communication Research	4/Issue	High involvement leads to: H1: greater recall H2: more connections H3: more positive in- tention	6 X 3 X 2 factorial post-test control	Multiple	Shoppers (self- selected)/ 161	One-tailed Z-test p<.07	Minimal support of hypothesis.

Author(s), Date & Publication	Involvement Definition Type	Hypotheses/ Research	Research Design	Multiple or Single Indicator	Subjects/ Sample Size	Analysis	Results/Findings
Sherrell & Shimp, 1982, AMA EP	2/Product	H1: Subjective state scale ratings of high involved subjects will be significantly greater than those of low involved subjects. H2: The self insight accuracy of high involved subjects will be significantly greater than that of low involved subjects. H3: The elapsed decision times of high involved subjects will be significantly greater than those of low involved subjects.	2 X 2 X 4 factorial	By Assignment	Undergraduate Students/ 65	Monanova 1-test Z-test	Reject H1 Reject H2 Support H3
Swinyard and Coney, 1978, Journal of Consumer Research	2/Political	H1: Ads for low involvement races would have powerful effect. Ads for high involvement races minimal effect on behavioral response. H2: Different involvement levels should have different hierarchies of effect. H3: Personal contact-Advertising interaction will occur in low but not high involvement situations.	2 X 4 X 2 factorial	By Assignment	Voting-age Adults/ 156	3-way Anova F-test	Generally supported hypotheses.
Tyebjee, 1979, ARPHS	2/Product	N/A	N/A	N/A	N/A	N/A	Pragmatic application of involvement for advertising.
Zimbardo, 1960, Journal of Abnormal and Social Psychology	1/Issue	High involved subjects change opinions more than low involved.	2 x 2 factorial before-after	By Assignment	Students/ 80	Anova F-test	Inconclusive

Appendix B. Summary of Attitude Towards The Ad  
Research.

Author(s), Date & Pub.	Definition of Aad	Operationali- zation of Aad	Analysis	Research Design	Subjs/ Sample Size	Hypothesis	Results/Findings
Burke and Edell, 1983 Duke Univ. Working Paper	Consumer's Evalua- tions of the Adver- tisement as opposed to evaluations of the product	(1) Wells, et al. (2)-(1)+ four additional phra- ses (Interesting, Informative, Con- vincing, Believ- able.) (3) Overall Aad measure.	6 Factor (1) R type prin- ciple components factor analysis with varimax rotation. (2) 3 factor R type factor analysis. (3) Regression analysis forward stepwise (R squared) for 6 factor and 3 factor models.	After only 11 television commercials	Members of University Community n = 132	H1: Aad is a multi dim- ensional construct. H2: An evaluative dim- ension will explain more of the vari- ance in Aad than any other dimension. H3: Do the underlying dimensions of Aad remain stable as the number of exposures in a natural setting increases? H4: Do the effects of the underlying dim- ensions of Aad on the prediction of Aad remain stable as exposures in- crease?	Hypothesis 1 & 2 supported for both 6 and 3 factor mod- els, under assump- tion of 3 factor model evaluative component clearly dominates in the explanation of Aad. Hypothesis 3 under 3 factor model underlying deter- minants of Aad remain stable and this "adds some external validity to the existence of the Aad construct. Hypothesis 4 after many exposures, Ab more significant than Aad. In addition to the above = under 6 factor model: 1.) The irritation factor always enters first, ex- plains the largest amount of variance in Aad, is negative and relatively large. 2.) After several viewings of the ad, uniqueness, initially the second factor to emerge contributes little to the model 3.) Possibly after many exposures Aad and Ab may become confounded.



Author(s), Date & Pub.	Definition of Aad	Operationali- zation of Aad	Analysis	Research Design	Subjs/ Sample Size	Hypothesis	Results/Findings
Messmer, 1977, Journal of Business Research	Affective response to ad	2 7-point Likert- type scales (toward ad itself and toward ads for this brand in general) (After-only mea- sure)	Univariate ANCOVA	After only for Aad	177 grad stu- dents.	Positive Ab leads to positive Aad	Hypothesis appears to be supported
Mitchell and Olson, 1981, Journal of Marketing Research	An individual's internal evaluation of an object	Mean value of four 5-point evaluative scales	ANCOVA and multiple regression.	4 X 4 Latin Square	71 Jr. and Sr. undergrads, male and female	Ho: b1e1 is sole mediator of attitude formation H1: There are other mediators (i.e., Aad)	Does not "strongly disconfirm" the null. Support is indicated for the existence of Aad as a separate mediator of Ab.
Moore and Hutchinson, 1983, ACR X	Affective reactions	Two 5-point scales measuring positive/negative emotional reactions to ads and ad familiarity	ANOVA	Aads served as classifica- tion factor in the analysis of changes in brand knowledge and brand consideration.	46 Students	Critical test of five basic hypotheses of Aad on Ab: 1) Generalization 2) Distraction 3) Distinctiveness 4) "Sleeper" - familiarity 5) "Sleeper" - affect	Suggests immediate and delayed effects differ. Immediate - support Generalization Delayed - support "Sleeper"
Shimp, 1981, Journal of Advertising	Affective reactions to ads relatively independent of cognitions	Conceptual article	Literature review	N/A	N/A	N/A	N/A
Shimp and Yokum, 1981 AMA Educators' Proceedings	Consumers' opinions of ads	see Wells, Leavitt, and McConville, 1971	ANCOVA	3 X 2 between subjects	88 Students (Regular cola users)	The more favorable the Aad, the more often the brand will be repurchased	Results of the ANCOVA margin- ally (p = .1) support the hypothesis.
Silk and Vavra, 1974 in Buyer/ Consumer Information Processing.	Affective reactions to advertising	Conceptual article	Literature	N/A	N/A	N/A	Basic review of early studies of consumers' affect- ive responses to advertising.

Author(s), Date & Pub.	Definition of Aad	Operationali- zation of Aad	Analysis	Research Design	Subjs/ Sample Size	Hypothesis	Results/Findings
Gelb and Pickett, 1983 Journal of Advertising	Focus is on cogni- tive component of Aad. Aad is viewed as liking or dis- liking of the ad for a "reason" (cog- nitive component) or "feeling" (af- fective component)	5 point semantic differential single item scale like/dis- like	Correlation analysis; Chi- square analysis smokers versus nonsmokers.	Mail Survey	383 Licensed drivers (16 and up in age) (20 per cent response rate)	H1: Perceived Humor in ad possibly as- sociated with ad. H2: Liking (or not disliking) ad will be positively asso- ciated with (a) Positive Ab, (b) Credibility of Ad, (c) Persuasive- ness of mes- sage, (d) intention to purchase.	Hypothesis 1 design does not allow a determination of direction of causal flow, but the hypothesis is supported. Hypothesis 2 a, b, c, & d supported at .001 level of significance.
Lutz, Mac- Kenzie, and Belch, 1983 ACR, Vol. 10	Recipients' affect- ive reactions toward the advertised brand (or where desirable, attitude toward pur- chasing the brand)	2 7-point scales (Favorable-Unfav- orable and Inter- esting-Uninter- esting) Meditat- ing Variable	Latent structure analysis (Lisrel's maximum likelihood technique).	After-only split sample	162 church members age 18 to 75, mean of 45.	H1: In an advertis- ing context, con- sumers low in both motivation and abil- ity to process in- formation exhibit a relatively strong influence of Aad on Ab and a relatively weak influence of Cb on Ab. H2: In an advertis- ing pretest context, consumers high in both motivation and ability to process information exhibit a relatively weak influence of Aad on Ab and a relative- ly strong influence of Cb on Ab.	H1: Aad on Ab rela- tionship not supp- ported. H2: Rejected. Peripheral processing emerged as dominant in both subsamples. Central processing secondary contribu- tion in high (H2) group.
MacKenzie and Lutz, 1983, AHA Research Methodology Conference	Pleasant or unpleas- ant feelings evoked by ad	2 7-point scales (as above)	Split-sample: 1175 analysis, 1160 validation. Chi-square analysis of goodness of fit.	After-only	2335 consum- ers	Comparison of four models of the causal relationships within the traditional hierarchy of effects model, including Aad as a mediating vari- able.	"Reasonably strong support" for model 1 which depicts Aad as having a direct one-way causal mediating effect on Ab.

Author(s), Date & Pub.	Definition of Aad	Operationali- zation of Aad	Analysis	Research Design	Subjs/ Sample Size	Hypothesis	Results/Findings
Hughes and Ray, eds.							
Wells, Leavitt, and McConville, 1971, Journal of Advertising Research	Consumers' opinions of tv commercials	Subjects were asked to check all words which applied to the commercials they viewed	ANDVA followed After only by principle components analysis and varimax rotation.		120 Housewives	Concept test	Six stable factors (humor; vigor; sensuousness; uniqueness; personal relevance; and irritation) emerged.

Appendix C. MBTI (SN Scale).

PART I: WHICH ANSWER COMES CLOSER TO TELLING HOW  
YOU USUALLY FEEL OR ACT?

1. If you were a teacher, would you rather teach
  - (a) fact courses, or
  - (b) courses involving theory?
2. Do you usually get along better with
  - (a) imaginative people, or
  - (b) realistic people?
3. Would you rather be considered
  - (a) a practical person, or
  - (b) an ingenious person?
4. Do you admire more the people who are
  - (a) conventional enough never to make themselves conspicuous, or
  - (b) too original and individual to care whether they are conspicuous or not?
5. Would you rather have as a friend
  - (a) someone who is always coming up with new ideas, or
  - (b) someone who has both feet on the ground?
6. In reading for pleasure do you
  - (a) enjoy odd or original ways of saying things, or
  - (b) like writers to say exactly what they mean?
7. In doing something that many other people do, does it appeal to you more to
  - (a) do it in the accepted way, or
  - (b) invent a way of your own?

PART II: WHICH WORD IN EACH PAIR APPEALS TO YOU MORE?  
Think what the word means, not how they look or how they sound.

- |         |             |                |     |
|---------|-------------|----------------|-----|
| 8. (a)  | scheduled   | unplanned      | (b) |
| 9. (a)  | statement   | concept        | (b) |
| 10. (a) | theory      | certainty      | (b) |
| 11. (a) | literal     | figurative     | (b) |
| 12. (a) | imaginative | matter-of-fact | (b) |
| 13. (a) | make        | create         | (b) |
| 14. (a) | sensible    | fascinating    | (b) |
| 15. (a) | production  | design         | (b) |



16. (a) concrete      abstract      (b)  
 17. (a) build      invent      (b)  
 18. (a) foundation      spire      (b)  
 19. (a) theory      experience      (b)  
 20. (a) sign      symbol      (b)  
 21. (a) accept      change      (b)  
 22. (a) known      unknown      (b)

PART III: WHICH ANSWER COMES CLOSEST TO TELLING HOW YOU  
USUALLY FEEL OR ACT?

23. In your way of living, do you prefer to be  
     (a) original, or  
     (b) conventional?  
 24. Is it higher praise to say someone has  
     (a) vision, or  
     (b) common sense?  
 25. Do you think it more important to be able  
     (a) to see the possibilities in a situation, or  
     (b) to adjust to the facts as they are?  
 26. Would you rather  
     (a) support the established methods of doing good, or  
     (b) analyze what is still wrong and attack unsolved  
     problems?

PART IV: PERSONAL DATA

27. Your Name \_\_\_\_\_  
 28. Your Instructor \_\_\_\_\_  
 29. Your Sex: Male \_\_\_\_\_ Female \_\_\_\_\_  
 30. Prior to completing this questionnaire today had you  
     heard anything about this study? Yes \_\_\_\_\_ No \_\_\_\_\_  
     If yes, what? \_\_\_\_\_  
     \_\_\_\_\_  
     \_\_\_\_\_  
     \_\_\_\_\_  
     \_\_\_\_\_  
 31. If you answered yes to question #30, did this affect  
     your responses to this questionnaire in any way?  
     Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, how?

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32. What do you think the purpose of this questionnaire is?

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33. Please list any other comments you may have (use the reverse side of this page if extra space is needed)?

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On the question sheet you have been given, please list as many products as you can think of that meet all the requirements of the question. There is no limit to the number of products which may be listed. Are there any questions?  
(If any, resolve.)  
Please begin.

Appendix D. Instructions for NGT Product Elicitation Questionnaire.

Please list those unimportant products (not brands) frequently purchased by you, for which you spend little or no time thinking about; which involve little if any commitment on your part; and for which you perceive few, if any, differences between brands in that product class.

Appendix E. NGT Product Elicitation Questionnaire.

On the question sheet you have been given, please list those things that meet the requirements of the question. List as many or as few as you feel meet the requirements of the question.

Are there any questions?

(If any, resolve.)

Please begin.

Appendix F. Instructions for NGT Attribute Elicitation Questionnaire.



Please list those things which are important to you, and which you consider when deciding what brand of handsoap to buy, when making a purchase.

Appendix G. NGT Attribute Elicitation Questionnaire.

Appendix H. Experimental Questionnaire.

In the questionnaire you are about to fill out we ask questions which make use of rating scales with seven places; you are to make a check mark in the place that best describes your opinion. For example, if you were asked to rate "The Weather in Portland" on such a scale, the seven places should be interpreted as follows:

The Weather in Portland is

GOOD BAD

EXTREMELY SLIGHTLY SLIGHTLY EXTREMELY

QUITE NEITHER QUITE

If you think the weather in Portland is extremely good, then you would place your mark as follows:

The Weather in Portland is

GOOD BAD

EXTREMELY SLIGHTLY SLIGHTLY EXTREMELY

QUITE NEITHER QUITE

If you think the weather in Portland is quite bad, then you would place your mark as follows:

The Weather in Portland is

GOOD BAD

EXTREMELY SLIGHTLY SLIGHTLY EXTREMELY

QUITE NEITHER QUITE

If you think the weather in Portland is slightly good, then you would place your mark as follows:

The Weather in Portland is

GOOD BAD

EXTREMELY X SLIGHTLY SLIGHTLY EXTREMELY

QUITE NEITHER QUITE

If you think the weather in Portland is neither good nor bad, then you would place your mark as follows:

The Weather in Portland is

GOOD BAD

EXTREMELY SLIGHTLY X SLIGHTLY EXTREMELY

QUITE NEITHER QUITE

In making your ratings please remember the following points:

(1) Place your ratings in the middle of spaces, not on the boundaries:

[illegible]

(2) Be sure you answer all items - please do not omit any.

(3) Never put more than one check mark on a single scale.

First, We want to try to help you remember what you might have been feeling while listening to the Break soap commercial.

Below is a list of words describing different kinds of feelings. Indicate how characteristic each word is of how you felt while listening to the Break soap commercial by using the scales where the end points are labeled "very much so" and "not at all." Please place a checkmark on only one of the seven spaces for each scale. In this section we are especially interested in your feelings about the way in which the product information was communicated, not your feelings about the product itself.

DID THIS COMMERCIAL MAKE YOU FEEL:

	VERY MUCH SO						NOT AT ALL
Insulted	___	:	___	:	___	:	___
Good	___	:	___	:	___	:	___
Angry	___	:	___	:	___	:	___
Happy	___	:	___	:	___	:	___
Cheerful	___	:	___	:	___	:	___
Irritated	___	:	___	:	___	:	___
Impatient	___	:	___	:	___	:	___
Pleased	___	:	___	:	___	:	___
Repulsed	___	:	___	:	___	:	___
Amused	___	:	___	:	___	:	___
Confused	___	:	___	:	___	:	___
Stimulated	___	:	___	:	___	:	___
Calm	___	:	___	:	___	:	___
Soothed	___	:	___	:	___	:	___

Next, we would like your overall reactions to the commercial. Place a check-mark indicating your reactions to this commercial on the scales below. The direction which you check, of course, depends on which of the two ends of the scale seem most characteristic of your reactions. The closer to the end points, the stronger your reactions should be. Please place a check-mark on only one of the seven spaces for each scale. Again, we are especially interested in your reactions to the way in which the product information was communicated, not your reactions to the product itself.

[illegible]



IN THIS SECTION WE ARE INTERESTED IN YOUR BELIEFS ABOUT THE ATTRIBUTES OF BREAK SOAP. BASED ON THE INFORMATION PRESENTED IN THE COMMERCIAL PLEASE INDICATE YOUR BELIEFS ABOUT THE ATTRIBUTES OF BREAK SOAP ON THE FOLLOWING SCALES:

- (1) BREAK SOAP'S SCENT IS
- GOOD BAD
- :  
 EXTREMELY : SLIGHTLY : SLIGHTLY : EXTREMELY  
 :  
 QUITE NEITHER QUITE
- (2) BREAK SOAP'S LATHER IS
- GOOD BAD
- :  
 EXTREMELY : SLIGHTLY : SLIGHTLY : EXTREMELY  
 :  
 QUITE NEITHER QUITE
- (3) BREAK SOAP'S PRICE IS
- GOOD BAD
- :  
 EXTREMELY : SLIGHTLY : SLIGHTLY : EXTREMELY  
 :  
 QUITE NEITHER QUITE
- (4) BREAK SOAP'S MOISTURIZER IS
- GOOD BAD
- :  
 EXTREMELY : SLIGHTLY : SLIGHTLY : EXTREMELY  
 :  
 QUITE NEITHER QUITE

(For the purposes of this study, responses to these questions were not analyzed.)

NOW, PLEASE INDICATE YOUR OVERALL EVALUATION OF BREAK SOAP ON THE SCALES BELOW  
HERE WE ARE INTERESTED IN YOUR REACTIONS TO THE PRODUCT ITSELF, NOT THE COMMERCIAL.

BENEFICIAL		:		:		:		:		:	HARMFUL
GOOD		:		:		:		:		:	BAD
LIKE THE PRODUCT		:		:		:		:		:	DISLIKE THE PRODUCT
SUPERIOR		:		:		:		:		:	INFERIOR
USEFUL		:		:		:		:		:	USELESS

SUMMARY INFORMATION

1. OVERALL MY ATTITUDE TOWARD BREAK SOAP IS

FAVORABLE  
 :-----: SLIGHTLY : SLIGHTLY :-----: UNFAVORABLE  
 EXTREMELY : QUITE NEITHER QUITE EXTREMELY

2. OVERALL MY ATTITUDE TOWARD THE BREAK SOAP COMMERCIAL IS

FAVORABLE  
 :-----: SLIGHTLY : SLIGHTLY :-----: UNFAVORABLE  
 EXTREMELY : QUITE NEITHER QUITE EXTREMELY

3. OVERALL THE BREAK SOAP COMMERCIAL GAVE ME FEELINGS THAT WERE

FAVORABLE  
 :-----: SLIGHTLY : SLIGHTLY :-----: UNFAVORABLE  
 EXTREMELY : QUITE NEITHER QUITE EXTREMELY

4. SEX FEMALE ( ) MALE ( )

5. TO INSURE THAT YOU ARE ABLE TO RECEIVE CLASS CREDIT FOR  
 YOUR PARTICIPATION IN THIS EXPERIMENT PLEASE PROVIDE YOUR

NAME \_\_\_\_\_ AND THE NAME OF YOUR

INSTRUCTOR \_\_\_\_\_.

THE SURVEY IS NOW COMPLETE. THANK YOU FOR YOUR TIME AND EFFORTS.

(For the purposes of this study, responses to these  
 questions were not analyzed.)

Please respond to the following questions as completely as you are able to. Your responses to these questions are considered to be extremely important and will be most helpful in the evaluation of this research project.

- 1) What do you think was the purpose of this research?
  
  
  
  
  
- 2) Prior your participation today, had you discussed this project with any others involved in it?  
  
yes \_\_\_\_\_ no \_\_\_\_\_  
  
a) If yes, how did this discussion affect your participation, if at all?  
  
  
  
  
b) Did it cause you to change your responses on any of the questions?
  
  
  
  
  
- 3) Did you have any difficulty in expressing what you really felt, due to the design of the questionnaire or any questions? If so, in what way?
  
  
  
  
  
- 4) Do you have any other comments concerning the research or the researcher?

Appendix I. Post Experimental Evaluation.





